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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—TYPES OF WILL.[1]

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I.—SIMPLE VOLITION.

THERE are tendencies in us of which we do not foresee the consequences, there are others of which we do. There are conations that are blind, and also foreseeing conations. Our instinctive impulses, at first unconscious of their end, as we grow up attach to themselves ideas and foresight. Yet they at times surprise us by their suddenness and unfamiliar character. They impel us to actions that we on reflexion disown because we do not recognise ourselves in them.[2] For we did not foresee their tendencies, therefore we could not subordinate them to any conscious end. We had neither the opportunity of accepting or of rejecting them. Hence we disown them as not part of our conscious self, as independent of the ends which it sets before itself. But do we disown them because they are relatively unorganised? Our primitive impulses are at least organised in this sense: they are subordinated to the end of preserving the life of the species and the individual. None the less we disown any impulse that is not also organised in one of the systems of thought which are our conscious interests and sentiments. If it has sprung up independently of them, and thwarts

[1] Read before the Aristotelian Society.

[2] See Fouillée's *Tempérament et Caractère*, p. xiv.

their volitions, we say that it thwarts *us*, and we call its action involuntary. And, irrespective of its degree of organisation, we will not be held responsible for it, except and so far as it rises into consciousness and comes within the control of our voluntary self.

As far as consciousness is concerned the lowest level of the conative development is the blind conation that carries no idea of the end to which it is directed; and we are generally agreed not to call this type volition. All other conations carry an idea of their end or object. Desire and aversion are such conations, but mere desire or aversion is not called will. Yet we are not consistent in this point of view. An unopposed desire is often impulsively realised, and we call that impulsive will. If we are angry with some one, ideas of hurting or paining him occur, and we sometimes find the pain or injury has been inflicted without any prior consciousness on our part that we were going to inflict it. If we are reproached for the action, we say we did not "mean" to do it. For the idea absorbing attention, and strengthened by the emotional impulse, has straightway realised itself without, as far as we can detect, requiring any other subjective condition for its accomplishment. Are we to call this type volition? According to the general opinion of psychologists, we should have to include it. An action that results from desire we call voluntary; for it is preceded and partly determined by a conscious idea, by desire and attention. We can hardly call it non-voluntary, because of the presence of these constituents; and involuntary or against will it certainly is not. Yet if the action be voluntary, the state which precedes it is volition. But this state is mere desire with attention, and, did it not determine action, we certainly should not call it will. Does, then, desire only become volition so far as the idea of its end becomes realised in whole or part, and is that sequence what we mean by volition? Prof. Ribot maintains that we reduce volition to an abstraction if we exclude its motor effects and accompaniments, that as an internal state it cannot be distinguished from a logical operation of the intellect.[1] And, in Mr. Bradley's opinion, the idea producing its existence is volition.[2] Yet this view, according to Mr. Stout, is a mistake. "The question," he remarks, "as to the nature of a certain mode of consciousness is quite independent of the question whether or not this mode of conscious-

[1] *Les maladies de la volonté*, p. 29.

[2] MIND, vol. xiii., p. 25.

ness will be followed by a certain train of occurrences in the organism and in the environment."[1] And it will be difficult for any one who has reflected on the type of abortive volition in involuntary actions to any longer maintain that the realisation of the idea is essential to volition.[2] As, then, mere desire with attention is not will, nor becomes will in the realisation of its end, it follows that impulses realised without attention certainly are not. Cases of this kind occur in all habitual actions. Their conation is not altogether blind, but the vague idea of an action arises outside the area of attention, and is apparently realised without coming within that area. As Prof. Sully remarks: "It is only when I have to do something new and unfamiliar that I need to realise with the maximum distinctness, by a special concentration of attention, the idea of the object or end and the idea of the required action".[3]

There are, then, three types that progressively approximate to will without quite revealing its specific character: (1) Conations that are blind; (2) Conations that vaguely foresee and accomplish their ends; (3) Conations that clearly foresee, or, through attention, accomplish their ends.

We come next to the more deliberate and developed types where, between desire and its satisfaction, the judgment intervenes that we are going to satisfy it. This judgment must be carefully distinguished from the idea of the action on which it is based. The judgment is a further development of it. We have the idea of an action before we decide; we may doubt, we may question, we may judge that we perhaps will realise it before the definite judgment occurs that we are going to realise it. Here for the first time we seem to come within the radius of will; for, if the action or end be not realised, we still should not hesitate to call that desire a volition which we had admitted to ourselves we were going to satisfy. Accordingly we find this definition given by Mr. Stout: "Volition is a desire qualified and defined by the judgment that, so far as in us lies, we shall bring about the attainment of the desired end".[4] Now this judgment has not time to develop in ordinary impulsive action. It is where desire cannot at once find an outlet for its impulse that the pause occurs

[1] "Voluntary Action," MIND, N.S., vol. v., p. 355.

[2] See "Attention and Will," *ibid.*, vol. iv., pp. 461, 463.

[3] *The Human Mind*, vol. ii., p. 225.

[4] *Op. cit.*, p. 356.

before action in which the reflective judgment, I shall do this thing, finds its opportunity. If we are indignant at an insult and cannot at once avenge ourselves, if we pity some one's distress and cannot immediately relieve it, we are then so often aware in the persistence of our feeling that we are going to relieve this distress or going to avenge ourselves.

And this judgment may occur in a mental state that amounts to only a simple volition. It may be preceded by no doubt and conflict of motives. The obstruction in the way of desire may be due to outward circumstances and not to an opposite desire. For my pity or my anger may possess me for the time being, so that other desires are excluded. In this case there is no choice, no selection of one end and rejection of an opposite end. Simple volition may then be defined as that mental state in which a single desire culminates in the judgment of attentive thought that we are going to realise its end. And complex volition in distinction from it will be preceded by doubt and a conflict of motives, and the decisive judgment in which it culminates will select the end of one of the conflicting motives. In both the judgment appears as the distinguishing character of will, as that which distinguishes the prior state of desire from volition; and the character of the judgment in both is positive and categorical.

II.—Will as Negation.

We often experience that mental state in which the idea of some action arises, and the responsive attitude of the self is at once defined in the judgment: "No, I shall not do that". In healthy minds, where virtue is a habit, such a negative volition is the normal attitude when they feel tempted by some vicious propensity. In pathological cases of fixed ideas where we are struggling not to realise the action which an idea represents, or not to attend to the idea itself, we may also have no positive and complementary end in view; our volition may be confined to the idea of not doing or not attending. How are we to interpret this negative character if volition always contains the positive idea of doing something developed into the positive judgment that we are going to do it? Is negation a positive judgment in disguise? That we are not going to realise an idea where we are conscious that it has a strong tendency to pass into action, means that we are going to restrain it, and that is surely something positive. Seeing that the absorption of attention by the idea

indirectly aids its realisation, we may will not to attend to it. And not to attend to it means that we shall attend elsewhere, to objects among which it is not found, from which it is absent. But can we give any positive interpretation of absence? If you are trying to restrain a reflex tendency, as the impulse to yawn or cough, the object of your volition is that the yawn or cough shall not become fact. Being an idea, it shall at most remain an idea, and shall be absent from the circle of what we call fact. But 'absence' means that it is *not* within the circle. What then is there positive about your volition? Are you willing to maintain the *status quo*, to permit the idea of the event, but not the event itself? Even in this case the negative element reappears as complement of the positive; for you cannot think of maintaining the *status quo* without thinking that certain changes which would destroy it shall not take place. Thus we cannot resolve negative volition into positive, even where we can show that the one logically implies the other. The positive is only a complement of it, and is incapable of supplying its place. Negative thought is unique, and this fact accounts for that type of volition in which the uniqueness of negative thought is employed in the characterisation of the end.

This uniqueness of negative thought penetrates also conations which are not will. What we call aversion seems to be a combination of desire and negative thought. If I have aversion for anything, I desire to escape from it; not to be near it, not to see it. If I have aversion for an end, I desire not to accomplish it. There are then negative desires as well as negative volitions.

In the treatment of negative thought, which has been so closely associated with logic, we must guard against confusing the distinct characters of logical and psychological analysis. In logic, negative thought necessarily involves a positive and positive thought a negative. If we have asserted that a man is honest, we are logically bound to deny that he forges other people's signatures or cheats at cards. The validity of the positive assertions involves the validity of the negative assertions, and conversely every negative involves some positive assertion. Logical analysis endeavours to discover what a content of thought involves or presupposes. It does not regard this content as an existing psychical fact, nor the judgments it presupposes as existing co-presented psychical facts. Psychology, on the other hand, deals with thought only as a psychical fact occurring in an individual mind, and having that specific character which justifies our designating

it by the general term, thought. And psychological analysis endeavours to discover what this fact actually contains, as negative or positive thought, in its particular context; not what it logically involves. Hence the two sciences from their different standpoints, from the different character of their analyses, will reach different conclusions, which rightly understood are in no way inconsistent with one another. We can illustrate the different character of the analyses and the different conclusions to which they lead in the present instance. In the psychological analysis of negative volition, we have to consider whether the negative actually present in its psychosis is co-presented with a positive thought which is its logical complement. In resolving not to attend to one object I must logically judge that I shall attend to another, or relapse into that sentient state in which all selective attention seems to be extinguished. In resolving not to do *this* I must logically judge that I shall do *that*, or at least maintain the present state: for the negative involves the positive. But in the resolution not to accomplish one end, there is not always as a psychical fact the positive resolution to accomplish some other end in place of it. In the negative volition, "No, I shall not do that," the idea of doing something else or maintaining the present state may not occur: the volition may be confined to the idea of not doing or not attending. But without the occurrence of the idea a supplemental positive volition is impossible. So also a positive volition may resolve to accomplish what it anticipates in idea without rejecting other alternatives which are inconsistent with its purpose, without even the idea of them occurring. Still, in the negative volition, "I shall not do that," we must in the sequel do something else or maintain our present state, although we may have had no prevision of this positive result. But its occurrence is obviously conditioned by the fact of the negative volition. In escaping from one object, we, as a matter of fact, pursue after another, and the direction we take is conditioned by the direction we avoid. In resisting temptation, we attend to objects from which it is excluded, and the negative volition conditions the positive movement of attention. In fact as "negative conditions positive apperception,"[1] so negative volition conditions and has as its psychical complement some positive conation. We may then lay down this general theory. All negative volition is as a psychical fact accompanied by some positive conation: all positive volition by

[1] *Analytic Psychology*, G. F. Stout, vol. ii., p. 144.

some negative and inhibitory conation. But this conation has often no foresight of its end, still less does it develop into volition. In pure negative volition, the positive conation is blind. In pure positive volition, the negative conation is blind. In the mixed type, both the positive and negative conations supplementing one another have developed the volitional character.

The logical doctrine that all negative involves positive thought cannot then be interpreted in psychology to mean that all negative thought is actually accompanied by a positive, nor consequently that all negative volition is actually accompanied by positive. And were this not the fact, all simple volition would be resolved into complex volition or choice. Before every voluntary action we should have the idea of some alternative action, and volition would be the choice which, accepting the one alternative, consciously rejected the other. That our deliberate and purposive actions correspond to this type is perhaps obvious; and we might define choice as the mixed type of positive and negative volition. That our more sudden and habitual actions—not so sudden nor so habitual but that we, in some measure, anticipate them in idea and foresee their accomplishment—that these also correspond to this type is a supposition which an impartial study of the facts does not favour. From blind conation to deliberate purpose there is an unbroken chain of development and complication. At the first stage we have actions vaguely foreseen, at the next, attended to, then developed into the assurance or judgment that *we* are going to accomplish them, at which stage, in agreement with the common usage of the word, we have named them simple volitions, lastly still further complicated by the representation of alternative actions. Shall we say that as soon as the third stage is reached and the knowledge of what we are going to do arises, the knowledge of what our intended action also excludes must arise with it? We had better surely take in the first place, as a more reasonable hypothesis, the theory which represents the conative development as steady and uniform, and not heap upon any one stage of it the growth and complications which are more likely to have been arrived at in the course of several.

We must then modify our preliminary definition of will if we are to interpret the present type. It is not the positive judgment, "I am going to do *this*," which is the distinguishing character of volitional conations. In pure or unmixed negative volition, we have no idea of any end that we are going to accomplish, we have only an idea of a result

or end that we are not going to accomplish. The distinguishing character of will is either a judgment that we are going, or not going, to accomplish an end, or some mixture of both judgments. What is common to all we have not discerned, unless it be that their character is categorical.

III.—Hypothetical and Disjunctive Will.

Those constituents of our thought-attitude to objects that we name the categorical, problematic, disjunctive, and hypothetical, are not tied to judgments. The logical text-books regard them as forms of judgment, and recognise no significance in the fact that they penetrate also other attitudes of thought. Indeed their common character is their mobility united to a strictly dependent nature. They pass from thought to thought, but can never subsist by themselves. Thus our questions, as well as our judgments, may assume a hypothetical, disjunctive, or problematic form; and even our supposals. I may say, "Let us argue no more, but assume that this is probably the case, and see what follows from this assumption;" or, "If one or other of these alternatives is true, what inference can be drawn from that supposal?" And these mobile elements that attach themselves to the fundamental types of thought are not even confined by the circle of them; but some, though not all, project themselves into our volitions. "If he persist in his present behaviour, I shall leave," is a genuine hypothetical volition, as "I shall travel *via* Calais or Boulogne" is one of a disjunctive type. And although both judgments are problematic in a sense, as both, at a point, infected with doubt, yet if we introduce doubt at another we destroy their volitional character. "I may travel," "I probably shall leave," are not volitions. The problematic element introduced at this point in whatever degree, from mere possibility up to almost complete certitude, is incompatible with the fact of volition; and if I am not quite convinced that if something happen I shall act, or that I shall definitely go to the one place or the other, there can be no will. While in the state antecedent to choice we are not sure what we are going to do, while in the state subsequent to weak volitions we again relapse into doubt, the moment of volition is a moment of belief. Full undoubting belief embraces it at a point, though over all the rest doubt may range in all its degrees. Thus I may be doubtful as to my success, but I am certain that I shall try. Our volitions are categorical, disjunctive, hypothetical, posi-

tive and negative, but problematic in this sense they cannot be.

Yet these hypothetical and disjunctive volitions are peculiar in their structure, and disturb all our accounts and definitions of will. In the one we do not judge that we are going to do anything. We resolve, yet without resolving to do that which we have in mind, and without resolving not to do it. What is certain and above doubt, where everything depends on a supposal? Yet the volition is certain, of something I am quite sure. I am quite sure that I shall act provided something else happen. But I am not sure I shall act, because I am not sure "something else" will happen. I am only sure of the relation of dependence between two events, the condition and my consequent action, but not of the happening of either. I am sure that this relation is the result of my will: I will this relation of dependence: that is the object and end of my volition.

Now we have always supposed that in volition we think of the idea as about to become fact. But in hypothetical volition, what is this idea? "If he continue in his present behaviour, I shall leave." It is not the continuance of his present behaviour that I will shall become fact, nor yet the idea of my leaving. What I will is that the one event shall produce the other. Yet we cannot eliminate the unique hypothetical character of the volition; for it is only on the supposition that the first event occurs that I will it to produce the second event. And this causal relation cannot occur without the happening of the first event; but, as I do not will the happening of the first event, I cannot even will the occurrence of this causal relation. I will that nothing shall, in point of fact, take place; but as before my volition occurred the continuance of his present behaviour might have produced any one of several consequences, the end of my volition is that it shall produce definitely one of them, namely, the fact of my leaving, and yet shall produce this one result only on the supposition that his conduct be not changed. This hypothetical form of the volition is irresolvable; we can neither analyse it into a categorical volition, nor interpret it by this type of will. Categorical volitions affirm that I am going or not going to do something: hypothetical volitions do not affirm that I am going to do anything.

It has been maintained by some logicians that the hypothetical may be reduced to a categorical judgment; and here, as in the treatment of negative volition, we must be careful

not to confuse what a content of thought logically involves with what an occurring thought actually contains. It is true that the hypothetical judgment involves a categorical. "If he persist in his present behaviour, I shall leave" involves a categorical judgment as to his objectionable conduct. Nay more, this judgment has actually occurred, and its occurrence has been a psychical condition of the volitional attitude which succeeds to it. But, as categorical, it does not make a definite action in the future conditional on the persistence of his objectionable conduct. The categorical judgment contains no supposal; and the hypothetical cannot therefore be resolved into it. The hypothetical psychologically contains a supposal, but contains no judgment. If the categorical judgment persist, it is co-presented with the hypothetical, but not contained in it, as, "His conduct is objectionable; I shall leave if it continue". We must therefore conclude that although the hypothetical logically involves, it neither contains nor can be analysed into a categorical judgment, but is, in respect of its supposal, a distinctive attitude of thought.

If we take next the disjunctive type of will, "I shall go either to Calais or Boulogne," it may be said that this does contain a categorical volition. It is certain that we are going to travel, but we are in doubt whether our temporary destination shall be Calais or Boulogne. We may say that the only volition is this categorical judgment that we are going to travel, and that in the undecided thought that we shall go either to Calais or Boulogne there is no will. But suppose that we have excluded other alternatives, that we have settled not to go to Havre or Dieppe, and have definitely confined ourselves to the alternative of Calais or Boulogne, then over and above a vague resolution to travel, there is the more definite resolution that we shall travel either to Calais or Boulogne. Instead of containing more doubt, this disjunctive volition contains less; and you cannot reduce it to the vaguer categorical volition which may have preceded it. But we may ask: Is it our previous type of hypothetical will differently expressed? for, if I do not go to Calais, I shall go to Boulogne, and if not to Boulogne, to Calais. But neither of these hypotheticals taken separately commits me to the alternative of one or the other. "If I do not go to Calais I shall go to Boulogne," does not tell me what must happen if I do go to Calais. Neither of these hypotheticals taken separately is then a disjunctive volition. Each tells me what will follow from a given supposal. Neither tells me that this supposal must become fact, nor

what will follow from the alternative supposal. But is the disjunctive volition the combination of both hypotheticals? If we think of both together—"Suppose I do not go to Calais, I shall go to Boulogne," and "Suppose I do not go to Boulogne, I shall go to Calais"—and become conscious of their mutual relations, we reach the conclusion, whether logically valid or not, that I shall go to Boulogne *or* Calais. Our two judgments have been succeeded by a single judgment; and do we suppose that its psychosis gathers up and contains them as psychical facts? Their "Suppose I go to Calais" and "Suppose I go to Boulogne" have given place to a definite "I shall go to the one town or the other". They are only the psychical conditions on which this new disjunctive judgment is dependent. And assuming what is certainly not the psychical fact, that we always reach a disjunctive volition through first reflecting on two or more such hypothetical volitions, none the less it is not a combination, nor a putting of them side by side. Before it can occur their attitude of supposal must give place to a single assertorial attitude. Hypothetical volition does not assure me that anything will become fact: disjunctive volition assures me that, so far at least as I am concerned in its production, something will become fact. The judgment of hypothetical volition does not affirm that I am going to do anything; the judgment of disjunctive volition affirms that I am going to do one thing or another.

Our bias for analysing one form of thought into another will receive a good many checks of this sort before we recognise that the forms of thought and conation are unique differentiations.

In distinguishing will from mere conations, we have been led to emphasise the judgment into which some conations develop as that which is distinctive of will. But the form of this judgment is not exclusively categorical, disjunctive or hypothetical, affirmative or negative; and if we rely on the form alone and expect to find the qualitative difference of will within this form, we shall be disappointed. For we can easily construct hypothetical and disjunctive judgments similar to those we have just considered, which we can see at a glance are not volitions. "If he is there I shall see him," has the same form as the judgment "If he is there I will see him," yet the one is a mere judgment, the other also a volition. Nor is it that in the one the conation of desire is absent, in the other, present. For I may desire to see him in both cases; but in the one this leads to a state of expectancy, in the other, to a state of will.

Propositions of the same form and in the same person express both. They differ in only a single word, and the use of the word "shall" in the context of the one indicates that the meaning is a mere judgment, and the word "will" in the other, that the judgment contains also a volition. So also the disjunctive judgment, "I shall go either to Calais or Boulogne," contains a volition, while the similar judgment, "I shall go or I shall not," is so pervaded by doubt as to exclude the possibility of will.

We cannot then rely on the form of these judgments; all depends on what they actually contain. And we can vaguely recognise two essential characters of this content. "If you are there I shall see you" is not will; "If you are there I shall make a point of seeing you" is. In the one judgment there is an emphasis laid on the agency of the self which is wholly absent from the other. Yet, in other cases which also in a sense concern the self's agency, the hypothetical judgment expresses no more than expectation. "If I am tempted in that way I shall succumb" does not imply a present volition on my part to yield to temptation, but a mere expectation based on an experience of my own weakness. Yet in both judgments I affirm that I shall act in a certain way on the supposition of some event occurring.

The other essential character of will has been brought out by our study of the disjunctive judgment. That judgment is always affected by doubt at a point, and is, in this sense, problematic: but where it contains volition there is always a core of belief. It is difficult to point out this core of belief, for it is to the fact of volition that it essentially refers; and if we cannot point out the volition in the complex psychosis which contains it, we cannot specify the belief. This belief is not always that I shall accomplish what I intend; for I may be doubtful of success. It is not essentially a belief that I shall do anything; for my volition may rest on a supposal; nor even that I shall try to do something, for this also may rest on a supposal. But unless I believe, unless I am aware —for the belief is a judgment—that, conditionally or unconditionally, I shall try to do something, there can be no will.

IV.—Fictitious Choice.

We may draw the line between conation and will where the former divides into two contrary tendencies, each carrying an idea of its end. We may maintain that we cannot be said to will, and can have no sense of freedom where there is not

present before action a second and alternative idea, even if it be only the negative idea of not doing that to which the first idea impels us. Volition or "selective action," says Prof. Titchener, "arises where we have in consciousness the materials of two different impulses, where two compound ideas of object and result are both alike supplemented by the idea of one's own movement, and the attention oscillates from the one to the other," accompanied by doubt and the "mood of indecision".[1] In this narrower use of the term, volition is synonymous with choice; and what we have taken to be simple volitions, where only one end is represented before action, can be no more than conations. As we have already the term 'choice,' which clearly designates this complex type, it would seem better and more in consonance with the common usage to allow the wider term 'will' to include our simple varieties.

Complex volition or choice is preceded by doubt and conflict. It is "the mental state which emerges when the process of conflict ceases because it has worked itself out to a definite conclusion".[2] The conflicting desires which in the state of indecision appeared as motives, now "disappear or appear only as obstacles"[3] on the same plane with any other difficulty in the way of achievement. But the presence of conflicting desires is not the choice between them. One or both may disappear before any decision is arrived at. Where there is choice they must culminate in the definite judgment that, conditionally or unconditionally, we are going to realise the end of one of them. The process of attention which persists throughout must undergo this modification. Choice, like simple volition, will appear to consist "in a certain kind of judgment or belief".[4]

If you ask a child which of two playthings he would like to have, he hesitates before he chooses. His doubt may last an appreciable time or pass in a moment, but in either case it is abolished by a process of thought. By a comparison of the two objects, he decides between them. He has to find an answer to the question suggested to him, "Which do I like more?" and his judgment that he prefers *this* and not the other object is completed in the volition, "I will have *this*". Note that the mind is probably determined at the outset by

[1] *Outline of Psychology*, pp. 254-255.

[2] *Analytic Psychology*, by G. F. Stout, vol. i., p. 131.

[3] G. F. Stout, MIND, N.S., vol. v., p. 337.

[4] *Ibid.*, p. 356.

the idea of the stronger liking, it is only in doubt which this is. This determination is partly due to the question proposed to it. If that question had been, "Which plaything will teach you more?" the idea of utility, in spite of its unattractiveness to the mind of the child, might have aroused a momentary conflict with his inborn tendency to be guided by the stronger liking. But here the issue is simple and restricted from the outset. The child's mind is made up before it chooses, all that is left undecided is on which side its liking is stronger. When again we are on a journey, and in doubt which of two routes to choose, yet decided to take the shorter, a similar process of thought, where evidence is at hand, develops the selective judgment that abolishes the conflict, the doubt and the question. And even when in youth we deliberate what shall be our profession, if we happen to be either prudently decided to adopt that which would be most for our interest, or, on the other hand, to follow our strongest inclination, a process of thought essentially the same, though more complex and prolonged, develops the decisive judgment which displaces it. In all similar cases, whether, as in the first, the question is, "Which of two objects is the better in some respect?" or, as in the second, "Which is the shorter way to our destination?" or, as in the third, "Which end is better in this or that respect?" and where we are decided at the outset, whether knowingly or not, to choose the better in the way we have conceived it, then our choice is the judgment in which the state of doubt and conflict culminates. Note, however, that this judgment is not merely an answer to a question asked by the intellect, but also somewhere implies will—"Which shall I take?" "What shall I do?" "What shall I be?" And the answer, "This," does not only contain the judgment, "This is better," but, fused into one with it, the further judgment, "I will take This," "I will do This," "I will be This".

What this double aspect implies will become clearer to us if we modify the kind of question to which our choice is the answer. If instead of asking, "Which shall I take?" "What shall I do?" "What shall I be?" we ask, "What will be given to me?" "What will be done to me?" "What shall I become?" we feel that the answer to these three questions cannot reveal will, while the answer to the former, in the common meaning of the word, must reveal it. There is a difference between them. The questions that provoke will have a specific character distinguishing them from other questions. It is obvious that the first three concern the agency of the self,

while the second ask what will be given, done, or happen to the self. And their answers correspond. The first three affirm that the self is to be an agent in taking, doing or becoming something: the second that the self is to be a patient, as the recipient of a gift, as suffering some action, as undergoing some transformation of character. Complex volition or choice is then a judgment of the self's agency. It is the outcome of such a doubt and question as must, if it be answered, result in choice. And it emerges when that antecedent process "has worked itself out to a definite conclusion".[1]

But the three examples we have taken represent different types: (1) The mind of the traveller is made up at the outset. He confines himself to the one question, "Which route is shortest?" He is determined to take the shortest. Now this set of his will may have been the outcome on a former occasion of doubt, question and conflict, in which case it is choice, according to our provisional definition. On the other hand, it may not have been. The man may never have asked, "Shall I take the shorter route or the more beautiful?" But his strong practical habits and commercial interests may have determined his will without doubt or conflict, in the only way that would seem reasonable to him. He knows he is going to take the shorter route, and he has never thought of taking any other. His initial determination is not choice, it is a simple not a complex volition. But its subsequent progress is marked by doubt, question and conflict. The man now asks, "Which route is shorter?" He is uncertain which. Still this conflict is merely a conflict of ideas. The question is addressed only to the intellect. It does not unsettle the will. It does not mean, "What am I going to *will?*" for that is already determined, but, "What am I going to *know?*" *viz.*, whether this or the other route will accomplish my preformed volition. Where then is there a real choice? A simple volition controls the subsequent sequence and works out the means to its own accomplishment. Doubt, question and conflict follow, instead of as in real choice preceding, volition. The complexity is a complexity of thought merely, and as far as the will is concerned its choice is fictitious.

Still we may argue, The traveller has reached the conclusion that he is going to take *this* and not the alternative route. His judgment is will according to our definition; and it follows a process of doubt and conflict and is, therefore,

[1] MIND, N.S., vol. v., p. 131.

choice. Our answer must be that his volition does not appear for the first time in the conclusion. It has been present to his mind from the beginning and persists throughout. And the process of doubt, question and conflict is a means to its end, because it provokes the knowledge of which it stands in need. The will is not the outcome of this conflict, and is therefore not choice, but subordinates the conflict to the idea of its end.

(2) We have assumed that the traveller knew at the outset that he would take the shortest route. A single dominant conation is implied in the question he asked, in the fact that he confined himself to this question. But he may not have been conscious of this conation: he may not have known that he would take the shortest route instead of the most beautiful. In that case the initial set of his mind is blind conation; a set of the character, not a set of the will. Where then does the will appear, where is there a real choice? As in the last case, the doubt and question refer to the intellect. There is a conflict of thoughts, not a conflict of desires. And this intellectual process controlled by a blind conation culminates in the judgment that *this* route is shortest. But as soon as he reaches this conclusion, his blind conation is illumined by a consciousness of his end, and the man knows that he will take this route. Through knowledge, conation has developed into will, and we realise the truth of Mr. Stout's maxim that it is "the cognitive side of our character which gives determinate character to the conative".[1]

Still there is no choice, if choice means the selection between conflicting conations or motives. It is a simple volition which coincides with a selection between ideas controlled by a single motive. It is the fictitious choice of judgment confused with the real choice of will because it is fused into one psychosis with a simple volition: "This route is shortest; I will take it". Here the first phrase expresses the selective judgment, the second the simple and driven will.

There is this difference between our two types. In the first, a simple volition precedes and controls the process of doubt which culminates in fictitious choice. In the second it succeeds the process of doubt and conflict and coincides with the moment of fictitious choice. And there is this in common between them: in neither is there any conflict of desires or motives.

[1] MIND, N.S., vol. v., p. 356.

(3) The case of the youth in easy circumstances and free to do as he likes who is resolved to choose that profession for which his inclination is strongest, yet in doubt as to which is his strongest inclination, differs in a material respect from both the preceding types. Here there is a genuine conflict of desires. Different manners of life alternately appeal to him. Each awakens a strong desire. He hesitates for long between them; for the most intense may not be the most persistent. At length, after many contrary opinions, he reaches the momentous choice which decides his career. There is surely nothing fictitious about this choice! Where could we find one more real to oppose to it? Yet, as in the first type, he starts from a volition, and the conflict of opinion which follows is instrumental to it. The rival desires are not motives to his will which is already decided, but motives to his thought which has to decide which of them is the stronger. And this decision or choice is obviously a judgment, and the volition to which it is subordinate remains essentially what it was at the beginning. Its end has indeed changed, and through the process of thought has become more definite. At first it was, "I will adopt that profession which . . ."; now it is, "I will adopt *this* profession". But if at the beginning it were simple as a volition, it is simple now; if it were a choice, it remains a choice. And the decision between the conflicting desires is the fictitious choice of judgment.

Conflicting desires are in a right sense only motives to the will, where the will is the outcome of their conflict. Where it precedes and subordinates them, they are not its motives. Our resolutions are sometimes followed by the desire that we had not made them. But if we remain steadfast the desire is not a motive, and no more than an "obstacle" or hindrance. Where it unsettles the will and throws us anew into the state of doubt from which we had escaped, it is still not a motive to that volition, but to the new volition which tends to replace it. If the youth had asked, "After all, is it not wiser to set aside my inclinations and adopt that profession which offers me solid advantages?" in that case, if his resolution had given way, there would have ensued a genuine conflict of motives. Torn between his preference for one mode of life and the love of wealth or position directing him to another, he would have been forced to choose between these conflicting motives or to remain undecided.

(4) We come next to the fourth type: the case of the child who is called upon to choose between two playthings. If the child ask itself which plaything is nicer, and ask itself no

further question, then this question is witness to the presence of a conation which will be embodied in the judgment which answers it, and will determine the action. This conation is probably blind at the outset—a blind set of the will ; and it is never called in question or doubted. Only a speculative difficulty remains ; and fixing attention alternately on these two objects, it must let them play upon its feelings until some difference between their intensities is produced ; and then, on the first recognition of a superiority on one side or the other, its impulsive conation rushes into will and self-consciousness in the judgment which signalises its discovery, "This is nicer : I will have this". Now here we may suppose that both playthings appeal to the child's feelings, that alternately he feels desire for both. There is then, as in the last case, a conflict of desires ; and the will—the conscious will—is the outcome of this conflict, and does not as in the last case precede it. And these desires are motives since the will chooses between them. Does it not follow that this is a genuine and not a fictitious choice—that the choice is a volition and not the mere selective judgment which fcllows a disjunctive question? We must answer this question in the affirmative if we hold by our definition of will—that it is not a blind but a foreseeing conation culminating in the judgment that the self is going to accomplish the event foreseen. And yet this result is not satisfactory. We shall be inclined to reverse it, to apply to all our four types the same treatment, and say : So far as there is any will in the process, it is at the commencement, not at the conclusion. All are types of fictitious choice; no one is real. For the mind is made up at the commencement, and nothing occurs afterwards to alter the blind or conscious set of its will ; all that follows is the light thrown by the intellect upon the conflicting thoughts or desires, so that one of them is seen to represent the object of this pre-existent will. And we are often disposed to take this broad view of the will. Those deep forces within us which work for the most part unseen, their tendencies unforeseen, whose objects only rise into clear thought at times, and at the moment of action are embodied in the judgment that we are going to fulfil them, seem to us the real and abiding will, and their conscious expression an accident or momentary phase, the mere play of thought upon their upmost surfaces.

We have come to distinguish two kinds of choice, fictitious and real ; but the former is real as far as judgment is concerned, fictitious only as far as will is concerned. The weak introspection and analysis of ordinary thought confuses

them, it applies the same term, 'choice,' to both; and it means by the term a complex type of will. But one of them is fictitious choice embodying only a simple volition. Fictitious choice is not a selection between conflicting motives: it may deal with desires and decide between them; but its decision is a judgment. It has like all judgment the character of truth or falsity: and like all judgment which resolves a doubt and disjunctive question, it selects one of the conflicting ideas of the state of doubt: but it does not select one of the conflicting motives. It may affirm that one desire is better, the other worse; that one is stronger, the other weaker; that one road is longer, the other shorter; and if the question has been which of them is better or stronger, or shorter, it decides, selects, banishes doubt and assumes the externals of a volition; but its fictitious character is most clearly exposed where it is followed by a genuine choice which makes an opposite selection. It may select the shorter, and the will may select the longer: it may select the better, and the will may follow the worse: it may select the stronger, and the will may reinforce the weaker. The choosing will does not affirm the qualities of its motives nor their relative strength, nor the best means to their fulfilment: it simply decides between their rival conations. The will cannot judge in the sense of affirming what is true or false. Its "I will do this" is neither true nor false in the same sense in which a judgment is true or false: it does not become true when its end is realised, nor false when it fails. Though we may lie and say, "I will do this," meaning it not, the lie attaches only to the judgment; and our inward and hidden intent, though it only becomes self-conscious in a judgment, is no more a judgment than desire is, and is neither true nor false. We have seen in former types how a judgment may assume the character of a simple volition; we see in the present type how it may assume the character of complex volition or choice.

V.—Involuntary Action.

An involuntary action is well defined by Mr. Stout to be "one which takes place in opposition to a voluntary resolution which exists simultaneously with it and is not displaced by it".[1] We often do what is contrary to our intention without anticipating the result; as where a child in trying to help hinders some one. But the involuntary actions we are to

[1] Mind, N.S., vol. v., p. 356.

consider are partly produced by the strength of the idea which represents them. Now when an idea produces the action by its own strength and without any concurrent resolution on our part, that is called ideo-motor action: when an idea produces the action it represents not merely without our concurrence, but in spite of a contrary resolution, that we shall name involuntary ideo-motor action.

Conflict is of the essence of this type; we strive to restrain an idea of abnormal strength: we fail and our volition is abortive. But as complex volition is also characterised by conflict, we may perhaps find this type representative of real choice.

The first sub-types we shall consider are those produced through fear. A man struggles not to become confused or dumfoundered through fear, and the idea of this result is that which produces it; or he resolves that an anxious idea shall not interfere with some delicate operation he is conducting which requires calmness and self-control; or that he will not attend to a horrible idea that is coming to fascinate him. And this impulse of fear, which, when not too intense, aids our escape from its object, here, through some morbid development or excessive intensity, defeats its instinctive end, and draws us to the very object we are striving to avoid. Ordinarily when we recognise within us the presence of such an overmastering fear, we at once concentrate all the energies of our will in resisting it. We pass through no intervening state of doubt. We do not first ask ourselves, "Shall I oppose it or shall I yield?" and decide after deliberation. Our action is immediate; there is no "struggle so far as regards our own part in the matter".[1] If then the precedence of such a struggle as this with doubt and question is essential to complex volition or choice, if choice is the mental state which arises when such a conflict ceases, then there is no choice. And there can be no real choice without a conflict of motives. But here there is only one motive present, the desire to restrain the action the idea of which persists. There is indeed another and contrary motive in a different sense. There is something present which is *moving* us to action, but it moves us to an involuntary not to a voluntary action. It is not a motive *to* the will but *against* it. The conflict is then between a motive which the will immediately supports and an obstacle to that volition. And the doubt which so penetrates us at such times is not any doubt as to what we are going to will, but whether we can

[1] *Op. cit.*

accomplish our volition. The mental state or psychosis can then at most be a simple volition. But has it even reached this stage of development?

In considering the type of simple volition, we found that an essential element of it was a judgment, in the common type, a categorical judgment that we were going to accomplish a desired end. But it appeared that this judgment only occurred where a sufficient pause intervened between the desire and its execution. Some obstacle delays the outrush of desire, and in the interval we become conscious that we are doing to satisfy our desire. Here also there is an obstacle, and our desire finds itself constrained. But we are already struggling against this obstacle before we recognise that we are doing so. Our impulse to escape from any object we fear is instinctive. A conscious volition may support this impulse, but the impulse precedes it. Now, what we have to inquire is whether an involuntary action does not sometimes occur so suddenly through the fear that we have of doing it, that the only conation that has time to develop for its restraint is just such an instinctive impulse as fear always involves. In learning to bicycle, people sometimes find that the mere terror which seizes them at the thought of running into a passing vehicle is sufficient to bring about the accident. On such occasions, the thought which occurs to their minds, often betrayed by their exclamation, is, "I know I shall run into it!" If fear left them time for reflexion before the accident, the second judgment, "I shall try not to," might also occur as the revelation of a conscious will antagonistic to the involuntary impulse. But there is no sufficient interval. As soon as the first judgment occurs, the collision takes place. In this strange type — common to our experience, but strange to our preconceptions of will — we find an involuntary tendency that apes the character of volition in the judgment that we are going to accomplish the object of that tendency, while the voluntary impulse opposed to it never attains to this degree of development, but reaches at most to the idea of not doing the action without culminating in the definite judgment that we are not going to do it. Yet we should describe the collision as involuntary, and we should say that it occurred in spite of our voluntary effort. For, however unsuccessfully, we tried to avoid it; though our momentary effort was confused and overpowered through fear of the accident. But according to our definition of will, this effort is not volition, because it is instinctive and precedes the idea of escape, and because this idea of escape does not develop into the judgment that we shall try to

escape. Were this judgment to occur, it would still succeed and not precede our effort. It would not determine our abortive effort: our abortive effort would determine it. It would, in fact, be a mere recognition of what was actually taking place, namely, our effort to escape. If, then, our effort be not a volition, the triumph of the contrary idea and judgment cannot produce an action involuntary or against will. Here, again, we feel tempted to broaden our definition of will. The effort which comes to our succour when some morbid idea or sudden emotion threatens us with destruction, however obscure it be, seems to us a genuine propulsion of the will, and, as we should say, an effort of self-control. Though it proceed not from the self as conscious thought, it proceeds from the primitive self as a system of tendencies instinctively organised for our preservation. And any impulse that proceeds from this self and is subordinated to its end seems will to us, so far at least as it gathers some idea of its end, although the idea be subsequent to the impulse, not the impulse to the idea. Where, on the other hand, an impulse is provoked which is not subordinated to the instinctive end of the organism or the conscious ends of the mind, though it proceed from this primitive self, yet it is not will, because it has escaped from the control of this self. The present case is an example. An emotion of fear, through a too great intensity, has defeated its instinctive end, and driven us to the very object we should avoid. It has broken apart from that instinctive organisation of the self, and therefore can be no longer the will of that self. The fullest consciousness will no longer make it will. And this we see clearly in the present example. We have an idea of the accident before it takes place, and, through the fear that possesses us, a consciousness that we are about to fulfil this idea; and yet this express judgment that we regarded as distinctive of will does not bring the impulse one degree nearer to volition than it would have been had it remained a blind tendency.

On the other hand, successfully as this conception of will interprets the present type, we should meet with many difficulties if we put it forward as the essential character of volition. Its definition is this: What the self does consciously is will. And "does" means not merely what it outwardly accomplishes, but what it is striving to do, as in the present thwarted impulse. Will then in this sense is the conation of the self. From which it follows that the striving of desire is will, whether or not we decide that we shall satisfy our desire. But at least, in any right sense of the term, there can only be one volition present at a given moment. Where

we have contrary desires which then is will? That which proceeds from the self? But both proceed from the self, belong to different sides or interests of that one self. One, say, is the interest in our profession, the other, interest in our country; or, one is the sentiment of pleasure, the other, the sentiment of duty. In all complex volition the self is ambiguous, and it is only at the decisive moment when we reject one desire and welcome its opponent that we know in which line of tendency the self is henceforth manifest. Then the self contracts. That which a moment before was one of its motives has now become an "obstacle" and a not-self. The volition has negatived it. It is excluded from the new limits of the self. And, instead of the conation of the self being *ipso facto* will, it is the conation which has become will that constitutes the sentiment from which it precedes the self. That mental system which has power to develop will becomes the new self. And the mental system, say of a fixed idea, though it culminate in the judgment of its prospective triumph and realisation, where it cannot develop a will, cannot become the self of the moment; where it is opposed by the will of another system it becomes a not-self; and all that proceeds from it is involuntary action. If we are then compelled to maintain our former definition as against this alternative conception of will, we cannot class the present type with involuntary actions. We must call it non-voluntary ideo-motor action.

In other cases fear produces genuine involuntary action. The game of golf furnishes an excellent illustration of this. It is one of the most deliberate games ever invented. We are not called upon to face, as in cricket, a sudden situation to which we must promptly adapt ourselves; but before each stroke we may exercise as much thought and deliberation as we judge necessary. It is therefore peculiarly influenced by the character and play of our ideas. In all difficult undertakings confidence aids success; but in varying degrees. Here it is of so much importance that if we have an idea that we shall fail in any particular stroke we commonly do fail. Unreasonable fears disturb at times even good players. The sight of a long distance of sand or water will suggest to one that he will not succeed in driving his ball across it, though he knows himself capable of the achievement. And if he fail he will often tell you that he knew that he was going to fail. This judgment has irresistibly formulated itself in his mind through fear, though he is conscious of a voluntary resolution opposed to it. His voluntary resolution cannot acquire the same degree of confidence.

He cannot persuade himself that he knows he is going to succeed, or he probably would succeed. He knows only that he is trying his best, depressed by the influence of an idea that he cannot exclude. Here in this type we have an undoubted volition rendered abortive by a contrary idea and judgment, and the result is an involuntary ideo-motor action.

But how do we know that this action is involuntary? Like the last type, it has aped the character of categorical volition in the judgment that we are going to realise the action. But if desire be essential to volition, the action cannot be voluntary because we had no desire to accomplish it, but, on the contrary, a strong aversion.

Again in this type, as in the preceding, there is no choice, if choice means the decision between rival motives. There is only one motive present, the desire to succeed; and the fear of failure constitutes a mere obstacle to the volition in which this desire results. Yet there is doubt and conflict present; but this concerns, not what we are going to decide, but whether our resolution will be effective. It is a doubt which is not a condition precedent of will, but complicates its progress. Now the only distinction between this and the preceding type of non-voluntary ideo-motor action is that here the instinctive tendency to escape from the object we fear has a sufficient interval to develop into a conscious volition in the judgment that I shall try to do that which fear suggests to me I shall fail in doing.

In other cases of involuntary action, there may be a conflict of desires present. Thus in struggling to restrain a reflex tendency, as Mr. Stout has well recognised, the impulse of that tendency becomes defined as a desire. To restrain a yawn or cough is so disagreeable that we long to let it escape and have done with it. On the other hand there is often an opposite desire present, and to permit a reflex tendency to escape may be ill-bred or even disgraceful; while in other cases, as where an army is on a march and complete silence has to be maintained, a fit of coughing may endanger its safety. And here the difficulty of distinguishing by the presence of a judgment between will and the involuntary tendency is at its climax.[1]

But we are now prepared for this result. The judgment that we were going to accomplish some end which, in our first type, we assumed to be not merely an essential constituent of will, but its distinctive constituent, that assump-

[1] See Mr. Stout's article already referred to, p. 360.

tion we have had to surrender. We have seen hypothetical and disjunctive judgments which by their form are not to be distinguished from hypothetical and disjunctive volitions; and in our present type we have merely discovered examples of categorical judgments which ape the character of categorical volitions. There is indeed no reason why an involuntary tendency, any less than will, when it is at the point of accomplishing its end, should not become embodied in the same kind of judgment, making known to us the results which it is to bring about. We have to pass from the judgment to what it actually contains, before we can tell whether it embody an involuntary impulse or a volition.

If we ask, in the next place, whether, in restraining a reflex tendency which has become a pressing desire, we are exhibiting choice, it does not follow because there are opposite desires present that there is any choice between them. As in the third type of fictitious choice, the decision between opposite desires was determined by a pre-existing volition, and the decision itself was no other than a judgment that decided which desire were stronger; so here for another reason there may be no choice, if choice is a volition preceded by a genuine doubt as to the desire we are going to select. As in the types of involuntary action due to fear, we decide without hesitation, so here the escape of the reflex tendency may be so disgraceful, or fraught with such serious consequences, that we never doubt or ask ourselves whether we should permit it to escape; we decide at once to restrain it. It may be objected that a moment before we decide to restrain the reflex tendency, there must be some doubt as to what we are going to decide; but this objection would exemplify that frequent source of error in our science named by Prof. James "the psychologist's fallacy". We, taking up the standpoint of an external observer, may judge that there is some uncertainty how the individual in question may act: he may experience no such uncertainty, but as soon as he recognises the conflicting tendencies, decide at once between them. When the order has been given by a military commander that, to surprise an enemy, the march must be noiseless, it may be difficult and painful for some individual to repress the tendency to cough, but the habit of military obedience does not admit of any doubt rising in his mind as to whether he should obey or satisfy a desire which is becoming imperious. He at once resists it, and if it escape, it escapes in spite of him. The volition is after all a simple volition; and the disciplined soldier cannot be said to choose to obey his superior.

And, lastly, in involuntary action there may be a genuine choice rendered abortive by the triumph of the involuntary impulse. It is, however, difficult to find any unambiguous example of such a type. There are no doubt cases of morbid ideas that possess and fascinate attention, which we resist at times and at other times question whether we should any longer continue our futile resistance; yet supposing we resolved to continue it after such question and doubt, our resistance is choice, but it does not follow it was persisted in until the involuntary action escaped. What commonly happens is that the involuntary impulse gathers fresh strength and is suddenly realised without our thinking of resisting it until too late. It is then only involuntary in the sense of being opposed to a prior volition that we have never consciously revoked, but forgotten at the crucial moment. Many of our actions that in strictness are non-voluntary, as containing at that moment neither the volition to do or not to do them, would in this sense fall within the category of involuntary actions. Our good resolutions are forgotten, but seldom revoked.

VI.—Will as Imperative.

At the end of his long and brilliant chapter on the will, after having shown in vivid illustration that its essential character is effort of attending, Prof. James comes to recognise that some complex types contain an additional constituent. This he frankly confesses he cannot analyse. We may name it a consent, a *fiat* or imperative, but we can go no farther: "the indicative and imperative moods are as much ultimate categories of thinking as they are of grammar!"[1]

It is a curious fact that while we frequently use the imperative mood where our object is to control the conduct of another, we seldom if ever use it at the moment of volition, in the control of our own conduct. But if we listen to the inward voices at times of stress and doubt, in the conflict preceding choice, we find that *they* often address us in the imperative mood. The moral sentiment so frequently adopts this attitude that we name it the moral imperative; and our mutinous desires also call to us through the fight: "Do it, take it, away with your scruples!" But the response of our will is different. It is like the action of a man that seizes a fellow-creature who is falling and cannot save him-

[1] *Prin. of Psy.*, vol. ii. p. 569.

self, but does not impotently command him to rise; or, that holding an animal which struggles to escape, does not bid it begone, but, what is more to the purpose, sets it free.

The indicative and imperative moods may be ultimate categories of thought; but if we have been tempted to identify the imperative mood with volition, we must reluctantly conclude that it is often present in the state of conflict preceding voluntary choice, and often absent in the decisive moment which abolishes our doubt and conflict.

Yet where our object is to control the conduct of children, servants and our subordinates generally, volition assumes the attitude of an imperative, sometimes politely disguised as a request, sometimes assuming the peremptory tone of a command.

Will is not then essentially an imperative, any more than it is essentially defined in a categorical, a disjunctive or a hypothetical judgment. It is indicative as well as imperative. And the imperative, like the disjunctive and hypothetical judgments, is ambiguous, and may or may not contain will. Where it appears in the state of indecision preceding choice, it is the specific attitude which our rival conations assume in face of the inward obstacle to their satisfaction; where it appears in our external volitions, it is the specific attitude which these assume in the face of an external obstacle to their realisation. In the one case, the obstacle is a rival motive; in the other, it lies in the inertia and conflicting desires and will of our fellow-men. If we see a servant bringing us what we want, we do not order him to bring it; if a child is doing what he is permitted to do, we do not order him to desist. Our order is given where without it our wants would not be attended to or our will would not be obeyed. But where people are angry, they often give meaningless or inconsistent directions; they command that to be brought to them which they see is on the way, or children to cease doing what they have permitted them to do. The emotion of anger finds a vent in overcoming the obstacle of a proper self-respect and dignity in subordinates.

We can now understand why it is that the imperative does not appear in the volitions that control our own conduct. Where our end can be obtained independently of the aid or concurrence of our fellow-men, the imperative is absent, because its presence would be meaningless. If our volition has been preceded by a conflict of motives, that conflict has now ceased, our course is decided, and there is nothing for an imperative to accomplish. But it appears in this state of indecision preceding choice, because volition is absent, and

may be provoked by an imperative like the will of another man. And how often these imperatives seem to us to have an extrinsic source, and to be the echoes within of the will of the gods or our fellow-men without. We do not at first identify such inward voices with ourself. As when we think, the opinions of other men occur to us as not our own opinions, as not yet affirmed or denied by our judgment, so before we will the commands of our parents and those whom we venerate, and the codes of society or religion, often occur to us, as not commands proceeding from ourself, and not yet consented to or rejected by our will.

And so the imperative is always a stimulus to our will or conation, or to the will or conation of other men. But is itself ever a volition? Or, in other words, as there are categorical, disjunctive and hypothetical types of will, are there also imperative volitions? If there be, they seem only to occur where the object of the imperative is to control the conduct of another person and not our own.

But sometimes the imperative mood is only a short and abrupt expression of desire. "Come and see me," may mean, "I desire," not, "I command it". Only the form is imperative; the meaning is different. At other times the meaning is imperative. An undoubted command is given, and understood as such both by the person addressing it and the person to whom it is addressed. And we recognise this as volition. But often where we give an order, as in our simple categorical volitions, we are not conscious of any other desire, except the one which we direct shall be satisfied. We are not thinking of the desires of the person we address, and whether these are antagonistic to our own. From the habit of giving orders to our subordinates, we give them without thinking of their feelings, so long as the order belongs to the class which we are accustomed to give and they to obey. In this case the imperative is a simple volition. But at other times we become clearly conscious of a conation in them which our imperative is meant to restrain. If a child is doing what he is not permitted to do, he is told to desist. Or if we anticipate that he is going to do it, we remind him that the action is forbidden. In such cases there seem to be two ideas present—the idea which we foresee the child is going to do and the contrary idea of the conduct which we prescribe. The one idea is expressive of a conation in ourselves; the other of a conation in the child. Can we ever choose between two conations, one of which is in ourselves, the other in the mind of another person? We should answer this question in the negative. Only so far as the conation

of another person becomes ours through sympathy, or through its harmony with our sentiments, does it become a motive to the will and an alternative to the desire we feel. But since the desire of another person often becomes such a motive in one way or the other, the imperative may be the result of a complex volition or choice. Thus you both desire to do what is best for your child, and you desire also through sympathy to yield to his desire. And where we choose between these motives, there seems first to be present to our minds the judgment that we are going to follow one of these two desires, and only afterwards, as it were a means to carrying this judgment into effect, does there issue from us an imperative or order to the child. Thus we are compelled to ask whether after all the imperative can be a volition, or only the means by which a preformed volition accomplishes its end.

If we assume it to be only a means, we shall find it troublesome to point out in all cases the volition that precedes it. In the case we have just considered, we deliberate between the child's desire and what, as responsible for him, we think he should be allowed to do. There is then that pause before the issue of our imperative in which we decide and are conscious of deciding between these alternatives. But the imperative often issues from us so suddenly that there is no sufficient interval in which the conscious judgment of how we are going to act can be formulated. A sudden want or desire rises in the mind, and we call upon a servant to fulfil it. The pull of the bell is an imperative, as much as our express order; and, as so frequently in involuntary action, no doubt or question intervenes, still less a judgment which answers the question. There is a single desire culminating at once in an imperative; as in our simple categorical volitions, a single desire culminates in a categorical judgment.

But in the complex type of the imperative, where a voluntary choice ordinarily precedes its command and is defined in a judgment, does the imperative lapse from a volition and become something else? The volition may precede the imperative, but is not annulled. It is changed, but persists. It is first embodied in a judgment, afterwards in an imperative. In the same way a hypothetical volition often passes into a categorical. "If you are there I shall make a point of seeing you." "But I shall be there." "Then I certainly will see you." In this *volitional syllogism*, as it might be called, the hypothetical volition of the major premiss is transformed into the categorical

volition of the conclusion through the judgment of the minor premiss.

We have seen will disengage itself from one form of judgment after another, and in our present type, it seems to throw aside every form of judgment and the definitions by which we have bound it to the judgment and to assume the distinctive form of an imperative.

But is the imperative a distinctive form, an "ultimate category"? Is its attitude as unique as negative thought, as the categorical, disjunctive and hypothetical judgments? Is its uniqueness, like theirs, not due to the combination of any constituents which we can specify? Does it belong to those products of mental life which consist in new groupings and complications of constituents present in other and previously subsisting groups, or to those products which consist in a new differentiation of such constituents? In the one case it is analysable in respect of that which is distinctive of it; in the other it is not.

There is one explanation of the imperative which readily suggests itself. When we say, "Do this," we may mean, "If you refuse, you will be punished". Is the imperative in reality a hypothetical judgment disguised in a unique grammatical form? We often supplement it by such a judgment where we anticipate that it will not act as an adequate motive without. And we can explain the influence which it exercises over us by the many painful consequences which, in childhood and youth, have followed disobedience to our superiors. But our question is one of analysis, not of genesis. We have to ask what the imperative means to the person who uses it, not how it has become a motive for the person to whom it is addressed; and where we anticipate no disobedience we neither say nor think, "If you do not do this, I will punish you," or "I shall be offended". This hypothetical judgment is something additional to the command, and which may or may not be added to it. And further, such hypothetical propositions essentially express a condition and its consequence, not a command that the person spoken to shall so act that the consequence shall not become due. The command is indirectly conveyed to him by the tone of your voice, the expression of your features, and perhaps by his knowledge that you will be pained by his disobedience and the necessity of punishing him. But a vicious schoolmaster might enjoy the prospect of a boy's disobedience that he might have the pleasure of flogging him; and his hypothetical proposition, though interpreted by the boy as an imperative, might contain no real

imperative volition, but its essential meaning of a condition and its consequence, and an ardent hope that the condition might become fact. In this case we can hardly suppose there were any real imperative in the schoolmaster's thought. And so a despot may say, addressing a rebellious subject, "If you do not submit, I shall forfeit your estates". And being confident of success, he may neither will nor desire his submission, because he covets his property.

Now the interesting point in these examples is that while they are not mere judgments, but genuine hypothetical volitions, they are not imperative volitions; they therefore demonstrate the distinctiveness of these two types of will. In the schoolmaster's mind there is a resolution to punish the boy in the event of his misconduct, and in the despot's, in a similar event, to seize his subject's estates. Both hope the event may occur in order to enforce its consequence. Both simulate an imperative attitude; but, through their hope of the event, in neither is there an imperative volition forbidding it.

We may next attempt to resolve the imperative into the disjunctive judgment, "You will do this or take the consequences". Here, as in the previous case, we must make the answer that this disjunctive judgment, though it sometimes supplement an imperative, is not its essential meaning; and is often neither spoken nor thought of. And again, the intention may be to inflict the punishment, and the alternative to it which is put forward may be chosen because we are sure it will be rejected, and will therefore of a certainty promote the end of our real volition.

We may make a more successful attempt than either of the foregoing to resolve the imperative into the categorical judgment, "You will do this". And here, as in the case of the imperative itself, the proposition is full of ambiguity. Like the imperative mood it may mean no more than a desire or entreaty, as where we emphasise the word "will"; or again, it may express a question. But where it means Will, it seems to be the same volition as the imperative. Thus, I may say to a man, "You will go to this place, and on arriving there you will leave this letter, and you will bring back the answer to it"; and the same volition, with no substantial alteration of its meaning, may be expressed in the imperative, "Go to this place, leave this letter, and bring back the answer to it". There is more emphasis in the imperative, and the emphasis is laid on the volition, while in the proposition there is rather a clear and certain anticipation of the future event, and the volition sinks into the background.

There is sometimes an overpowering assurance about "You will do this;" a cool, deliberate determination, so different from the abrupt "Do this," where it springs impulsively, suggests a threat and hides a suspicion of failure. But a more striking difference remains to be pointed out. In "You will do this"—leave this letter and bring back the answer—there is always a clear anticipation of a future event, but this anticipation like others may be mistaken. The man may do something else or refuse. In other words, "You will do this," is a judgment referring to a future event: "Do this," is a command referring to a future event. The judgment is either true or false: the command is neither true nor false. It is not shown to be false or mistaken, like the judgment, when the event referred to is not accomplished; nor does it become true, like the judgment, when it is. The failure of the judgment is error, a mistake in its conjecture; the failure of the imperative is a thwarted purpose.

But we are not yet at the bottom of the difficulty. The judgment, "You will do this," may, as we have seen, be more than a judgment; it may also contain a volition: in the same way as the imperative may also imply an anticipation or judgment. In that case the judgment, "You will do this," means, "I command you to do it, therefore you will do it". The anticipation or judgment of the future event is the consequence of the implied command or imperative. And similarly, when we give a command and are also conscious of anticipating its accomplishment, this judgment only arises because we are conscious that the command has been given.

This implication of a command in the judgment, "You will do this," comes out more clearly if we substitute the word 'shall' for 'will'. There can then be no mistake about the presence of volition. But it carries also the meaning that this imperative has been already partially thwarted or that at least there are clear signs of disobedience, as when a nurse having repeatedly used the imperative, "Sit still," to a restless child without the required result, clenches it in the judgment, "You shall sit still," and thumps it down on the seat. "You shall do it," means, "I will make you do it, and having ordered you to, will use physical force to compel obedience".

We have seen that in these alternative phrases which we may use instead of the imperative mood, though not without a certain alteration of our meaning, the categorical judgment, which they prominently express, still carries with it more or less clearly the imperative as its basis; and that by

the discovery of these alternative phrases, so far from having resolved the imperative into a categorical judgment, it persists as the indispensable basis of that judgment.

From our failure to analyse the imperative as will, we infer that, like negation and the types of judgment, like the distinction between pleasure and pain, and the distinctive varieties of sensation, it is a differentiation of thought, or more correctly of thought and will, of which we may perhaps furnish a genetic, but never an analytic explanation.

VII.—Desire and Will.

In all volitions, according to the common opinion of psychologists, we either desire their immediate result or some remoter consequence. But our situation may be so desperate that, instead of a choice between desires, we have only a choice between aversions. A woman may have to choose between death and dishonour. A man suffering from an incurable disease may prefer the alternative of suicide; and a condemned man has sometimes been permitted to select the manner of his death. He may have an aversion to death in every form; and if we take aversion to mean desire to escape from an object, he has several such desires. He desires to escape from death altogether, and each death, as he imagines it, he shrinks from. But a power that heeds not his desires holds him fast. Powerless and despairing, he cannot will to escape from it. There is no good that he can choose; he can only avoid the greater evil. Some death appears to him less horrible than others. His aversion to it is less strong, and he perforce selects it.

In this type, there is a volition present and even a rational choice; but can we find any desire for the death selected? We may say that the motive which determines the man's choice is desire to escape the greater evil. He sees a course that offers him escape. He therefore desires to follow that course. But this argument is based on a false simplification of his state of mind. Desire may indeed be present in the state anteceding his volition; but at the moment of will it is transformed into aversion. He desires to escape the greater evil: he desires also to escape the less; and the course which he represents as an escape from the greater is that which leads directly to the less. Were it not for the less, he would desire to follow this course; but the presence of this evil at the end of it transforms desire into aversion. Were it not for the greater evil at the opposite end, he would desire to retrace his steps; but the presence of this greater

evil again transforms desire into aversion. There he stands between these opposite goals, hemmed in in a course that inevitably leads from one to the other, with a simultaneous aversion for both; and shrinking to the last he is pushed forward to the one goal by the greater horror behind him.

While in the common types of volition there is desire to do what we will to do, either for itself or some ulterior consequence, here there is desire not to do what we will to do, and desire that death, the ultimate consequence of our action, may not be realised. It is the extreme opposite of the type which psychologists[1] have described as universal, and admitting of no exceptions. And we can conceive of a third that occupies an intermediate position between these extremes. Volition may stand in three typical relations to desire: (1) we may will to do what we desire to do; (2) we may will to do what we desire to escape from doing; (3) we may will to do what we have no desire of doing. In other words, we may feel either desire or aversion for what we are going to do, or, conceivably, neither one nor the other.

There is another type familiar to those who have an experience of self-sacrifice, in which the sacrifice of one of ourselves is undertaken, not in a mood of warm and exalted emotion, but in the calm, austere spirit of the northern Teutonic races, where duty, for duty's sake, ordains the sacrifice. It is "a dreary resignation," "a desolate and acrid sort of act, an excursion into a lonesome moral wilderness".[2] Do you think that at the moment at which you were to resolve to go out into this "wilderness," you would feel any desire to be there? Do you think that in the heart-rending struggle which precedes, you would be led to such a self-sacrifice by the pleasant impulse of desire? Of course, we know that a soul so high-strung loves duty, and desires to follow it. But where is the love, and where the desire, at the moment of a great surrender? The end is still desirable, but does desire occur as a psychical fact? The end is desirable; it is an end we ought to desire; it has moral value; we do desire it at other times; nay, more, were only the burden of this sacrifice lifted, we should desire it anew. But as when a youth is in love, his favourite occupations and the books in which he took delight, delight him no more, and his intellectual ambition is under an eclipse, because all the desire of his being is absorbed into the system of this over-

[1] Mr. Bradley is an exception: see his "Pleasure, Pain, Desire and Volition," MIND, xiii.

[2] William James, *Prin. of Psy.*, vol. ii., p. 634.

mastering passion ; so when, at the call of duty, we sacrifice what we most love, the passionate desire of love effaces the pale intellectual desire of duty.

In this type, desire is no longer present as a motive to the will. There is desire for the end that we sacrifice, not for the end we accept. And we can quite well explain the motive which influences this choice without supposing it to be formed of an actual present desire. The austere love of duty, the calm but often steady desires that subserve it, explain the formation of a habit of acting in harmony with its dictates ; and this habit, where a sufficient interval occurs before action, is ordinarily reinforced by desire. Only when an intense desire competes with it, is it effaced for the time. Then the " feeling-tone " of the sentiment of duty is effaced, and the mental system which it qualifies becomes a dry mental fact. But it does not cease to be a motive ; its conation is diminished, but not destroyed. It still strives to exclude those ideas of action that are incompatible with it ; it thwarts the contrary desire. The habit of our past lives stands by us. It maintains these ideas within the focus of attention, so that passion cannot exclude them, or blind us to their true character. And they persist as an alternative motive to the will, unloved, undesired at the moment though they be. And the loss of their affective side, that side which affects us with pleasure and desire, is not anything exceptional. It seems to be a general psychological truth that only opposite desires nearly balanced in point of intensity can both be felt together. When one is calm and intellectual, and the other has reached the intensity of passion, the first disappears. But when the state of indecision is prolonged, amid the fluctuations of intensity of the contrary desire, the first may find an opportunity, and be reinstated. But at the moment we make those calm but steadfast resolves, when at the same moment that we see all the allurements of passion we reject them, then we feel only the desire that we will not to follow and not the desire to follow that we will. And were this not the case, did we in a moment see the beauty of self-sacrifice, and on the impulse achieve it, then we should not feel that terrible effort in our resolution. It would form easily, and, with the subsidence of emotion, as easily, perhaps, be forgotten or repented of.

This effort that we feel in forming a resolution must be carefully distinguished from the effort felt in carrying it into effect. Great undertakings are hard to achieve ; but we will to achieve them in youth with facility. There may be little effort felt in going out into the cold, but the resolve may

cost us much. It is the first and antecedent, not the subsequent effort, that is often witness to the fact that our resolution is contrary to our desire. And yet not always; for where two contrary desires persist, and prolong indecision, we feel often a considerable effort in making any choice between them.

There are, then, three types due to the relation of will to desire: the common type in which desire is the motive selected; the type in which desire is effaced from the motive; the type in which desire is replaced by aversion. The second type is exemplified more frequently than we think. The little words "ought" and "must," with their impalpable meanings, have come to acquire considerable force with civilised men. When the desire opposed to them is not too strong, they are often sufficient of themselves to overcome it. We do little disagreeable things because, as we say, we must. We go to see people that we dislike, we write letters that we hate, because we have to. It is an artificial explanation, sought after in the interests of a theory, to suppose that we always think of the consequences of these disagreeable actions, and that these awaken an actual desire to do them. The idea that we have to do them moves us. We are going to delay no longer, and this idea culminating in the prospective judgment of our action suffices. When we hesitate we are apt to feel aversion, and the third type is exemplified. When we act quickly, through a settled habit, there is no interval sufficient for desire or aversion; we have simply the idea that we *must*, followed sometimes by the judgment that we *will*.

There are two arguments that may still be advanced in support of the usual theory. We may urge that desire is not altogether absent from these cases, only that it is so faint as to pass undetected. But if we cannot sometimes detect it, we cannot verify the theory that it is essential. The theory or hypothesis, while it interprets the common types, finds others which are, to say the least, ambiguous, and rather lend support to an opposite hypothesis. But what shall we say where it is not merely a question of desire being extinguished, concerning which we can always allege that it still flickers, but where it is a question of desire being replaced by the contrary fact of aversion—instead of desire to do the action, desire to escape doing it? And this is sometimes sufficiently intense to be unmistakable. Shall we urge that in the very core of this aversion there is a hidden and contrary desire—that the man who has chosen the death for which he feels the least aversion, also secretly

and unknown to himself in some degree desires this death? Who with an open mind would be convinced by that argument? And we may ask further: Is a desire that is unfelt and unrecognised any longer a desire? For when we desire, we know that we desire; as when we will, we know that we will. Sometimes, indeed, we try to blind ourselves to the fact of desire; but the effort shows that we have first recognised it. An unfelt desire is a blind conation—a tendency only interpretable by its result. But the cases we have considered are not blind conations; we foresee their results, only we feel no desire for them. In our first example, choice lay between two actions which were neither desired nor for most men desirable, their common end, death, being likewise neither desired nor in most men's opinion desirable. In our second example, choice lay between two actions one of which was desired and the other recognised as desirable, but for which there was no actual desire. In the one case we cannot choose anything that we desire: in the other what is desirable but not desired.

The study of the types of will is the indispensable basis of a scientific theory of its essential character. Because such a preliminary study has never been made, or because we have contented ourselves with the portrayal of a few subordinate types, our theories of volition have one after another appeared one-sided and inadequate. A theory formed in unconsciousness of any distinctive type of will, or without a clear insight into its peculiarities, is liable to be overthrown by any one to whom this type is familiar in his own experience. And the more closely the typical forms of will are studied, the more we shall appreciate the difficulty of embracing them in any one supreme type. We have already felt something of this difficulty, as well in pursuing the character of simple as of complex volitions. The general theory of will we can only put forward as a scientific hypothesis for interpreting its distinctive types: and when a new type is brought forward that we have not anticipated we may have to modify our hypothesis. Better evidence than this we cannot pretend to, and the profoundest introspection will not show us the *universal* character of will.

II.—ON THE RELATIONS OF NUMBER AND QUANTITY.[1]

By B. Russell.

I wish, in this paper, to discuss one of the most fundamental questions of mathematical philosophy. On the view we take of this relation must depend our interpretation of the Infinitesimal Calculus and all its consequences—in a word, of all higher mathematics. The very idea of the continuum—an idea which, in philosophy as in mathematics, has become gradually more and more prominent, and has, of late especially, ousted the atomic views which were shared by Hume and Kant—must stand or fall, I think, with the relative justification of quantity in mathematics as against number. It will not be necessary, however, to deal with mathematical considerations here; it will be sufficient to consider number and quantity in their purely logical aspects. I shall use quantity, always, as equivalent to *continuous* quantity, and I shall endeavour, in the course of the paper, to make clear the meaning of the word continuous.

My argument will be as follows: First, I shall discuss number, and show that its extensions beyond the positive integers result from a gradual absorption of the properties of the unit, and give a gradually diminishing information as to the whole. Then I shall discuss the application of number to continua, and shall endeavour to show that number *per se* gives no information as to quantity, but only comparison with an already quantitative unit. It will appear, therefore, that quantity must be sought in an analysis of the unit. Assuming quantity to be an intrinsic property of quantities, I shall discuss two hypotheses. The first regards quantity as an irreducible category, the second regards it as an immediate sense-datum. On the first hypothesis, we shall see that extensive quantities are rendered contradictory by their divisibility, and must be taken as really indivisible, and so

[1] Read before the Aristotelian Society.

intensive. But intensive quantity too, it will appear, must, if it be an intrinsic property of intensive quantities, be also a mere relation between them. The hypothesis that quantity is a category giving an intrinsic property will therefore have to be rejected. The hypothesis that quantity is a datum in sense will also be found to lead to contradictions. We shall be forced, therefore, to reject the view that quantity is an intrinsic property of quantities. We shall regard it, instead, as a category of comparison; there is no common property, we shall say, among things that can be treated quantitatively, except what is involved in the extraneous property that there are other qualitatively similar things with which they can be quantitatively compared. This will turn quantity into measure, in the broadest sense, and with this, I think, our previous difficulties will cease. But at the same time, every connexion with number will cease—quantity or measure, we shall say, is a wholly independent conception of comparison. But a discussion of the kind of comparison involved in measure will bring back our previous difficulties in a new form; we shall find that the terms compared, though we no longer regard them as quantitative, are infected with contradictions similar to those which, in the first part of the paper, will have belonged to quantity itself. I shall conclude that quantity is only applicable to classes of actual and possible immediate data, and not to any fully understood material.

In the ordinary procedure of mathematics, quantity appears as a limit in the extension of number. Let us therefore examine, to begin with, how far this view of quantity is tenable.

Number, throughout the following discussion, will be used only of discreta; it will be taken as always the result, not of comparison as to the more or less, but of acts of synthesis (or analysis) of things whose qualitative or quantitative differences are disregarded. *Pure* number will denote the merely formal result of acts of synthesis, so far as any result can be known in total abstraction from the matter synthesised and from the specific qualities of the objects of the synthesis. Since a *unit* must be defined by some quality, pure number will thus have no reference to a unit, or rather its unit is the abstract object of any act of attention, of whatever kind this may be. Such an operation can only give rise to the natural numbers, the series of positive integers. Fractions, negative numbers and imaginary numbers, I shall speak of as *qualified* numbers, for here we have always some more explicit reference to the specific qualities of the unit. Such numbers, unlike the positive integers,

absorb, into an apparently numerical expression, some properties which the unit does not share with all thinkable contents. In order that a fraction with any given denominator may be applicable to a collection of objects, these objects must be capable of division into parts equal in number to the denominator. If they are not so divisible, the fraction cannot be applied to these objects. For example, a fractional number of pounds sterling has a meaning if the denominator is a factor of 960, which is the number of farthings in a pound. If the denominator is not a factor of 960, the fraction—neglecting foreign currencies—cannot be taken with arithmetical strictness, but only to the nearest farthing. Thus a fraction whose denominator is n only has meaning when applied to a unit which is itself divisible into n smaller units.[1] From this we derive the important result, that the graduated infinite series of fractions, called the number continuum, has meaning only when applied to a matter divisible *ad lib.* No fraction has meaning, for example, when applied to human beings. The same is true of negative numbers. The minus sign does not apply to the number, but to the nature of the unit, which is regarded as the opposite of some unit previously fixed, *i.e.*, as neutralising the previous unit when synthesised with it. Thus a debt and an asset neutralise one another: hence a debt may be represented as a negative asset, and *vice versâ*. But a negative number only has meaning in relation to a matter which is capable of having an opposite, and thus implies always a certain property of the unit. Imaginary numbers may be similarly explained. Like the symbol of negative numbers, the symbol of imaginary numbers, $\sqrt{-1}$, is not to be regarded as itself a number, nor yet a quantity, but simply as expressing a qualitative relation of our new unit to some unit previously fixed. This relation is such that, when A is so related to B, and B to C, then A is the opposite of C in the sense explained in dealing with negative numbers. In this case, B is said to be $\sqrt{-1} \times A$. Thus if our original unit be a foot towards the East, $\sqrt{-1}$ multiplied by our original unit will give a foot towards the North, which is a new and qualitatively different unit. Hence the so-called imaginary numbers are capable of application, but they agree with fractions and negative numbers in that they are not applicable, like pure number, to *any* thinkable con-

[1] *Cf.* Ehrenfels, *Zur Philosophie der Mathematik; Vierteljahrsschrift für wiss. Phil.*, xv., pp. 308-9.

tent, but only to objects having a certain property. This property is more complex than that required for negative numbers and fractions, but equally possible.[1] Thus throughout the extensions of number, the truly numerical element is nothing but the positive integers—everything else arises from abandoning that complete indifference to the properties of the unit in which pure number consists. So far, however, the properties implied remain perfectly abstract, and our object, being still posited exclusively by thought, is still subject to the laws of thought alone.

Throughout this abstract development of number, the unit has become gradually more important and explicit. When it is quite explicit, we get a third kind of number, which, outside our arithmetic books, is alone of importance. This third kind I shall call *applied* number. In this, there is a reference to a definite unit, and the applied number is always to be regarded as the product of the corresponding pure number with the unit in question. Here we find the justification, in the properties of particular units, for the extension of numbers beyond the positive integers. The unit is some concept, and the number is formed by instances of the concept. Numeration can, of course, be applied to concrete things only by abstraction, for no concrete thing is *merely* an instance of a concept—no man in a set of statistics, for example, is a mere man. But for us here, the important point is that the result, even in its abstraction, can only pretend to accuracy where nature gives a unit of some sort; where our concept, in other words, finds its extension in a ready-made series. But in most of the applications of number, this is not the case. The matter to which number is to be applied, wherever this consists of sense-data as opposed to conceptions, contains no ready-made divisions, but has to be divided artificially in order to manufacture a unit. Any portion of such a matter is called a *quantity*. The result of applying number to this quantity I call *magnitude*, and the operation of applying number I call *numerical measurement*;[2] the matter itself is a *continuum*.

But to what extent does number give us information in

[1] It is important to observe that irrational numbers do not appear in this development. They arise only in connexion with quantity, and cannot be validly treated by Arithmetic, since their relation to the unit cannot be expressed conceptually.

[2] I shall generally use *measure* to denote only comparison as to the more or less.

such a case? For the ideal application of number, we require concepts embodied in a series of really diverse instances. Everything relevant must be supposed known about the instances before numeration begins, for this gives no fresh information as to any of them. The only connexion between them implied in numeration is the purely formal connexion involved in their being thought of simultaneously, and there is therefore only a purely formal reaction of the numerical whole on the instances which constitute it. But though no information is derived, by counting, as to the instances, complete information is derived as to the whole, since the numerical whole is nothing but the mere aggregate of the instances. In order, however, that information as to the whole may result from numeration, the instances must be definite and distinct. The ideal, for number, would be Leibnitzian independent monads. As soon as our unit ceases to be definite, and ceases to be known independently of all numerical considerations, counting ceases to give definite information. To be told that a town consists of 10,000 souls is real information, for a soul is a natural unit, concerning which most of us profess considerable knowledge; but to be told that a foot consists of twelve inches is no information, for a man might study space for ever without discovering the inch as a natural unit.

Number, in short, demands a unit not itself numerical, a unit to whose nature number is wholly external. We require a subject-matter with real divisions. Where there are several ways of making these divisions, as *e.g.* into pounds and shillings, the number to be applied begins to be arbitrary, and to give only incomplete information as to the whole. Where the divisions are wholly fictitious, as with continua, the number is wholly arbitrary, and the information it gives is *nil*. Number is now only available for *measurement, i.e.*, for comparison of one quantity with another. The unit of measurement, the inch or the foot, is already a quantity. Comparison with another quantity, therefore, which is all that number can effect, involves, if taken as exhausting the nature of quantity, an obvious vicious circle. Quantity must be investigated—so it would seem—by analysis of the unit itself; it must be an intrinsic property of our arbitrary unit, and not a particular or extreme case of number. From this conclusion, if quantity is to have any meaning, there would seem to be no escape.

But if we adopt this view, new obstacles, no less formidable than those which led us to declare quantity independent of number, bar our further progress. Quantity, we have

said, is an intrinsic property of our arbitrary unit. If so we ought to be able to say something, as regards the quantity of our unit, which shall not consist merely in comparison with another quantity. But this, so far as I can see, we are unable to do. As soon as we begin to make judgments about quantity, they are always judgments of comparison—the vaguest possible judgments of quantity are: "This is greater (or smaller) than that". We seem thus to be landed in an antinomy. Though every judgment of quantity is necessarily a comparison, the essence of quantity must not lie in comparison, but in the terms compared. In other words, quantities have an intrinsic nature, but this consists wholly in difference from something else.

Our difficulty may be illustrated by the ordinary definition of quantity, as that which can be increased or diminished. Since increase and diminution are themselves quantitative, this definition involves a vicious circle. But it suggests, as Hegel points out, an important characteristic of quantity. Quantity may be altered without producing any other change in the thing whose quantity is altered. This will give us some guidance as to the sort of things which can be regarded as quantitative. It explains why quantity appears as a purely extrinsic determination. For it places the whole essence of a quantity in being different from other quantities: by a quantitative change, a thing is changed in nothing except quantity, and quantity cannot, therefore, be defined by reference to the nature of the quantitative thing, since this nature, apart from quantity, is unaffected by a quantitative change. In this extrinsic reference, quantity is on a par with space. The whole essence of one part of space is to be external to another part, just as the whole essence of one quantity is to differ from some other quantity. This explains why space is quantity *par excellence*, and why all other quantities have to be reduced to spatial equivalents before they can be quantitatively treated. But just as the extrinsic reference of space leads to an antinomy which shows it to be mere relativity, so the extrinsic reference of quantity leads to an antinomy which forces us, it would seem, to abandon the position that quantity is an intrinsic property of quantitative things.

But if we abandon this position, what are we to say of the terms of quantitative comparison? We can no longer say, apparently, that quantitative comparison compares quantities, or that measurement is measurement of quantities. Two ways of escape suggest themselves, by which we can endeavour to rescue the intrinsic nature of quantity.

We may say, with M. Couturat,[1] that quantity is a wholly independent category, of which, just because it is a category, no account can be given in terms of other categories. Or we may say that quantity is an immediate datum in sense, which, like colours and sounds, can be indicated but not described. I shall discuss these two views successively.

Taking the view that quantity is an independent category, we shall say: Quantity is distinct from and independent of quality; its changes do not produce changes of quality, and it must be taken as immediately apprehended, without reduction to other terms. When we are given a foot-rule, we apprehend its quantity (length) along with it. All we can say of this quantity, beyond mere apprehension, consists, it is true, of comparison with other quantities. But this no longer constitutes an antinomy, since the quantity, *ex hypothesi*, is an irreducible property of our foot-rule.

Let us seek, on this basis, for a characterisation of quantity. This will have to proceed entirely from the nature of quantitative comparison, since we have admitted that, apart from comparison, there is nothing to be said about quantity except that it is quantitative.

We have, at the outset, a fundamental division of quantities into two kinds, extensive and intensive, according as a change of quantity is, or is not, a quantity of the same kind as the quantity changed. A change of length is itself a length, but a change of temperature or illumination is not itself hot or bright. Of these two kinds, extensive quantity is the more important, and I shall consider it first.

A quantity is extensive when a change in it is a quantity of the same kind. From this definition we can, I think, construct all the ordinary properties of extensive quantity. In the first place, we have addition (and subtraction). The original quantity, together with its change, is equal to the final quantity. When two quantities together are thus equal to a third, each of the two is said to be a part of the third. Thus an extensive quantity is always susceptible of division into extensive quantities, which are therefore in turn so divisible. This gives infinite divisibility. Again, since quantities may be increased as well as diminished, any extensive quantity may be regarded as part of a larger extensive quantity, and so on *ad infinitum*. This gives infinite quantity, as the negation of a limit to the growth of quantity. Again, by definition, all quantities of a kind are qualitatively alike; therefore our collection of quantities

[1] *De l'Infini Mathématique*, Paris, Alcan, 1896, *passim*.

is homogeneous. Since all extensive quantities may be regarded as parts of larger extensive quantities, this means that the whole collection may be regarded as parts of an infinite whole out of which they are divided. It is to be observed that all these properties belong to space and time. I have now to prove that extensive quantity contains a contradiction which is precisely the same as that contained in space and time, the contradiction, namely, of being at once a relation or adjective and more than a mere relation or adjective.

A change of extensive quantity, we said, is itself an extensive quantity. But a change is an adjective of the thing changed, which must be supposed to preserve its identity throughout the change. Hence, *either* the original quantity was not a mere adjective, but to some extent a thing, capable of varying determinations without loss of identity; to this alternative there are two objections—first, the change of extensive quantity is a mere adjective of the original quantity, with which it is thus not homogeneous, and second, the original quantity, though *merely* a quantity, is capable of preserving its identity while becoming *merely* another quantity, which is absurd. *Or* the original and subsequent quantities, and the change of quantity, are all adjectives of something distinct from them; but in this case, it becomes absurd to speak of dividing quantities—parts of an adjective are meaningless. Thus extensive quantity is an adjective, because it is homogeneous with a change, which is necessarily adjectival; but it is not a mere adjective, because it can be divided and has parts. Precisely the same antinomy may be derived, as is more commonly done, from infinite divisibility. For since any extensive quantity is divisible, it is possessed of some thinghood; since it has parts, it is a complex thing; now any complex thing must be composed of simple things; but this composition out of simple things is precisely what infinite divisibility denies.

An extensive quantity must, therefore, it would seem, be a hypostatised adjective or relation. When we cease to hypostatise it, it becomes intensive—its divisibility ceases, and a change of quantity is no longer homogeneous with the quantity changed. This brings us to the consideration of the second kind of quantity, the intensive.

At this point, it will be well to consider briefly the fundamental similarity and difference between the ideas of number and quantity. Both depend, to begin with, upon the application of the same conception to different contents. In

number, the conception may be any we please, and the contents to which it is applied are regarded as only numerically, not conceptually, different. They are collected into a whole of precisely similar contents, and comparison plays only the preliminary part of showing the same conception to be applicable to all the contents. In quantity, the common conception must, as we have just seen, be some quality, adjective, or relation—things as such are not susceptible of quantitative treatment. Moreover, while number depends upon the conceptual identity of the contents numbered, quantity depends essentially upon their differences. A collection of quantities of the same kind, while they must be identical in quality, must also be susceptible of differences of quantity, and it is precisely these differences which are relevant. But with intensive quantities, which we are at present considering, these differences of quantity are not themselves quantities. The difference between two intensive quantities, in fact, differs from each as much as the difference between two horses differs from a horse. With this, it will be seen, we have lost the last possibility of numerical treatment: extensive quantities could be divided into parts, which could be counted, but intensive quantities cannot be numerically measured in any way. What, then, can we say about such quantities, and how are they to be treated?[1]

Since intensive quantities are not divisible or numerically measurable, the quantitative changes in qualities which have intensive quantity cannot be submitted to any objective test, but must be judged by immediate comparison of sensations. Where changes of sensation are found empirically to be correlated with changes of some extensive quantity, we may agree conventionally, as we do with the thermometer, to take the magnitude of this correlated extensive quantity as measuring the magnitude of our intensive quantity. But such an agreement can never be more than a convention, and the apparent objectivity which results is fictitious and merely convenient. All that we really have to go upon is the immediate apprehension of a change, as revealed by subjective comparison. This explains why intensive quantity, if it is a category at all, is mainly a psychological category.

To fix our ideas, let us, since intensive quantity appears to be really a matter for Psychology, take pleasure as the

[1] On the subject of intensive quantity, compare Sigwart's *Logic*, vol. ii., § 70.

type for our discussion. Pleasure is unrelated with any extensive quantity—unless it were the coinage—it is wholly subjective, and it is commonly regarded as a quantity. It has, therefore, every characteristic required for a type of intensive quantity.

A measure of pleasures, as Hedonists have to acknowledge, is unattainable. A sum of pleasures, as their opponents have urged, is not itself a pleasure. Similarly a difference of pleasures is not a pleasure, and a "balance of pleasures over pains" is unmeaning. All these are properties of intensive quantities generally, and reveal the fundamental impossibility of a Calculus of intensive quantities. For a strict Hedonist, the problem of weighing two small pleasures against one big one ought to be meaningless, since an aggregate of two pleasures does not form a single quantity of pleasure.

But, further, if we take quantity as a category, applicable to single quantities, there is, if I am not mistaken, a contradiction in the idea of intensive quantity. Intensive quantity, while it must be regarded as belonging, in different measures, to the separate terms of a quantitative comparison, must also be a mere relation between those terms, and thus in its essence ratio, or, in the looser sense, measure. The measurement of intensive quantities is only possible as to the more or less, and is effected, not by any objective or scientific test, but by immediate subjective comparison. The kind of comparison involved can only be indicated, not described, and the possibility of exhausting the differences of two quantities by this kind of comparison is what constitutes them quantities of the same kind. Now two intensive quantities of the same kind, in all the conceptual properties which can be assigned to either alone, are completely identical; the difference of quantity, therefore, is a difference in a property which appears not to exist before comparison. To return to our former example: suppose we have two pleasures which, so far as they are quantitative, are both abstract or mere pleasure. Then *quâ* mere pleasure, the two are conceptually identical; the quantity of either is not a thing describable *per se*, but is simply and solely that which makes one pleasure greater than the other. This would seem to reduce intensive quantity to a relation between two terms, and yet, in asserting that one term is greater than another, we definitely assert—so we agreed at the beginning of this discussion—that each separately has a quantity.

It is impossible, therefore, if quantity be an intrinsic property of quantitative things, to content ourselves with the

view that quantity is an independent category. Both in extensive and in intensive quantity, this view leads to hopeless contradictions. It remains to adopt the other view, that quantity is an immediate sense-datum, irreducible, like colour or sound, to conceptual terms. To this view too, I fear, we shall find fatal objections.

What, to begin with, does quantity mean on our present hypothesis? We have a series of distinguishable psychical states, all having a certain aspect which we call by a certain name. But among the instances of this aspect, comparison discovers differences—differences which, though they exist between the instances of one conception, cannot be used, like the differences between species of the same genus, for the formation of fresh and more specialised conceptions. We are brought back, in fact, to immediate sensible apprehension: just as the difference between red and green remains for ever indescribable in conceptual terms, so the difference between two quantities of the same kind seems irreducible and ultimate. We seem at last to have reached quantity pure and simple, which was not attainable as the limit of arithmetical development, nor yet as an intrinsic conceptual property of quantitative things. Nothing can be said of quantity, in our present sense, except that we have series of sensations, feelings and emotions, which, while they are so similar that we apply the same name to all, can yet, by means of this one irreducible aspect of intensity, be arranged in a graduated scale of greater and less. But with the definite, measurable, objective quantities of mathematics, this purely psychical, non-measurable, indivisible intensity has nothing whatever to do. For mathematics, therefore, such a result is utterly barren.

But there are other reasons for not resting content with this result. M. Poincaré, in a very able article on the mathematical continuum,[1] has satisfactorily proved, I think, that quantity must be conceptual. *Quantities* may undoubtedly be given in sense, but not *quantity*. The reason is this. If quantity be sensational, two quantities which give indistinguishable sensations must be equal. Now the smallest perceptible differences of sensation are finite, so that no ground can exist, if quantity be sensational, for the creation of the continuum. Nevertheless there is ground for the continuum. Suppose we have three sensations

[1] *Revue de Mét. et de Morale*, January, 1893. I take this opportunity of calling attention to the splendid work which this review, and the school it represents, have done on our present question and on the kindred question of Zeno's arguments against motion.

A, B, C, of which A is indistinguishable from B, and B from C, but not A from C. Then on a purely sensational basis we have necessarily

$$A = B,\ B = C,\ A \lesseqgtr C.$$

To avoid this contradiction, we have to assume that B is not equal to A and C, and with this assumption we have abandoned the purely sensational nature of quantity. Immediate comparison remains the ultimate arbiter as to differences of quantity, but it may force thought to assume differences where it cannot discover them itself. The idea of continuous quantity, of the ordered series proceeding by infinitesimal gradations, is thus a product of thought. Quantities may be given in sense, but they become quantity only by an act of thought.

Quantity, then, is conceptual, but is not an intrinsic property of quantitative things. What, under these circumstances, must quantity be?

There remains one possible view, and this I think is the truest. We held that quantity must be intrinsic, because we supposed it to be a common property of quantities. Just as mass is a common property of masses, discoverable by abstraction from their individual peculiarities, so, we held, quantity must be a common property of quantities. This seemed obvious, but I believe it was the source of all our difficulties. Quantity is not a common property of quantitative things, any more than similarity is a common property of similar things. Quantity is a conception of relation, of comparison; it expresses the possibility of a certain kind of comparison with other things. Whether this comparison is possible or not, depends, primarily at any rate, not on the nature of the quantitative thing, but on the possible existence of other things sufficiently similar for quantitative comparison. With this, our previous difficulties cease. A quantity is any content whatever, so soon as this content is capable of a certain kind of comparison with other contents.[1] In *a* quantity, taken in isolation, we cannot discover, therefore, any of the properties of quantity. *A* quantity is really as improper an expression, for things which can be quantitatively compared, as "a likeness" for a photograph. To search for the nature of quantity in analysis of particular quantities, therefore, is as absurd as to search for the nature of likeness in a study of photography.

[1] *Cf.* Bosanquet's *Logic*, vol. i., p. 124.

By this solution, quantity becomes essentially measure—using this word to mean any sort of quantitative comparison.

We may now sum up the preceding argument, and give it a positive form. Seeing that number, as used in measurement, could not exhaust the nature of quantities, we inferred that this nature was to be found by analysis of the unit. But when we analysed the unit, we found that any attempt to give it quantitative attributes led to a contradiction. We now see that this must be so, for the unit, taken in isolation, is not quantitative at all. What is quantitative is only the relation of the unit to a content which differs from it in a certain manner, and only the possibility of such a relation, which is external to the unit, leads us to speak of the unit as a quantity. The truth of quantity, therefore—to use a Hegelian phrase—is measure. We no longer have the contradiction that quantity both is, and is not, a mere relation, for our refusal to regard it as a mere relation was based wholly on the view that it must be an intrinsic property of quantities. We can now see the reason why extensive quantities are more amenable to measurement than intensive quantities. For the definition of extensive quantities is, that a change is homogeneous with the quantity changed. Now extensive quantities—*i.e.* spaces and times—are themselves relations, and may therefore be homogeneous with that relation of difference in which, as we now see, quantity really consists.[1] The terms, being already relations, may be homogeneous with their difference, which is itself a relation. There is also, I think, another reason why the quantitative treatment is felt to be more fundamental in the case of spaces and times. The essential prerequisite for quantity, as we now see, is the existence of a continuum of qualitatively similar objects, for it is this which renders quantitative comparison possible. Now in extensive quantities, the continuum is actually given—not indeed as a definite whole, but as an extent with vanishing boundaries. The continuum is primarily undivided, and remains indifferent to its divisions, which thus appear as bits of it. The assemblage of all possible temperatures or degrees of pleasure is obviously a construction of thought; space and time, on the contrary, seem like "infinite given wholes," of which particular spaces and times are limitations. The continuum required for quantitative treatment is thus more prominent in the case of extensive than in that of intensive quantities—it is given, instead of being a mere construction of thought.

[1] *Cf.* James, *Psychology*, vol. ii., pp. 148-51.

Finally, the reduction of measure to number must, on the view here taken, appear as extraneous and merely convenient. Measure, on our theory, is an independent kind of comparison, yielding judgments of more or less. The reduction of extensive to intensive quantities, at an earlier stage of this paper, still holds good; the two do not differ logically, but only in the manner in which they are given. At most they differ in this, that extensive quantities are relations, while intensive quantities are adjectives. Relations and adjectives alike, however, are indivisible, and the division, on which the application of number is based, is logically a delusion, and due only to our hypostatising space and time. Even so, the application of number to spaces and times rests on equality, which is here a quantitative relation, having no accurate counterpart in number.[1] Quantity or measure, therefore, as the mere more or less, should be put among conceptions of relation, and wholly separated from number. The connexion of quantity with number—so we must conclude—is due partly to motives of convenience, but mainly to a confusion between two fundamentally distinct ways of regarding space and time.

Thus measure removes the contradictions, in the conception of quantity, which appeared in the first part of this paper. To this extent, it is a real advance upon quantity regarded as intrinsic. But it must not be supposed that all contradictions are removed from the conception of measure. The chief difference is, that these contradictions now appear in the properties of terms compared. For although *quantity*, in our present sense, is not a common property of quantities, some common properties are involved. When we investigate these we shall see, I think, that they render measure dependent on the inadequacy of thought to sense, and thus still logically self-contradictory.

Our result so far is as follows: First, we saw that two

[1] It is important to observe that the conception of equality proper does not occur in the treatment of number. Equality does not occur, to begin with, in applied number, for here we have no guarantee of the equality of the units—the fact that the number of two collections is the same is no ground for affirming their equality. Equality therefore, if it occurs in number at all, must occur in pure number. In pure number, however, what we get is not equality, but identity. Thus the numerical measurement of extensive quantities consists of two steps: in the first, which alone is quantitative, we assure ourselves that we have a collection of *equal* quantities; in the second, we count these equal quantities as we might count anything else. The single extensive quantity which results from our counting is thus numerically measured in terms of any one of our original equal quantities.

things which differ quantitatively do not differ conceptually in anything except quantity. Secondly, we saw that quantity is not an inherent conceptual property of quantitative things. From these two propositions it follows that two things which only differ quantitatively do not differ in the conceptions applicable to them. Nevertheless, since we found that quantity is not an immediate sense-datum, we were forced to admit that quantity is a conception, but a conception of comparison. Hence, in a judgment of more or less, we have a conception of difference without a difference of conception. This seems to constitute a contradiction: between two things which are in all points conceptually alike, there ought to be no difference, but complete and entire similarity. From this contradiction, we can derive a definition of the intensive continuum, and of the kind of things to which quantity is applicable.

To begin with, though quantitative comparison is conceptual, the terms compared must have no conceptual differences. They must differ, but not in the conceptions applicable to them. Thus measure must apply, not to conceptions, but to immediate data as such. These are collected by conception into classes, until this process reaches its limit in the *infimæ species* of immediate data. If conception were adequate, all the instances of any *infima species* ought to be precisely similar, but this, it appears, is not the case. Although our instances cannot be conceptually differentiated, comparison still discovers differences among them.[1] We have, however, a conception by which we can express the result of comparison as to their differences, and this conception is measure, *i.e.*, the more or less. By means of measure, the whole bundle of instances can be arranged in an ordered series of increasing or decreasing magnitude. But if thought were adequate to these data, it would apply a different conception to each: to confess that this cannot be done is to confess that the point of difference is unintelligible. Since every content of consciousness is, in one aspect, necessarily an immediate datum, quantity is applicable to every conceivable content, but only *quâ* immediate datum. Thus belief, in Psychology, is subject to quantity, since I may hold a belief with different degrees of conviction; but judgment, in Logic, is not subject to quantity. It must be maintained, therefore, that quantity

[1] This seems to be the point urged by Kant against Mendelssohn's proof of the indestructibility of the soul. Kant regards the soul as an intensive quantity. See *Krit. d. r. V.*, 2nd ed., pp. 413-15.

applies to contents only when they are regarded as immediate data, and applies then only because such data are not fully understood. In this it differs from number, for number can, by abstraction, be applied to a material perfectly understood. While things which can be numbered together must have some conception in common, things which can be measured against each other must have no conception not in common, and yet must differ. This is only possible in a material not wholly mastered by conception. This material, which is the intensive continuum, may therefore be thus defined: An intensive continuum is a collection of data all belonging to one and the same *infima species* of conception, and all therefore conceptually alike, but yet differing in some property which conception has not mastered. The relation of difference is a relation of measure, of more or less, and constitutes the conception of quantity. The necessity of such a conception is a standing reminder of the inadequacy of thought to sense, or, if we prefer it, of the fundamental irrationality of sense.

III.—HEGEL'S TREATMENT OF THE CATEGORIES OF THE SUBJECTIVE NOTION.[1] (II.)

By J. Ellis McTaggart.

Judgment of Subsumption.

Singular Judgment.

All Judgments of Inherence are, as we have said, Singular. The Judgment of Subsumption, which is derived from the Judgment of Inherence, will consequently start as a Singular Judgment. Its outer form will therefore be exactly the same as in the Positive Judgment of Inherence,—for example, "This is red". But the difference is that, in the Judgment of Inherence, the singularity of the Judgment was an essential part of its nature as a Judgment of Inherence. Here, on the other hand, it is merely the form with which we start, which can be modified if it is not found to be a suitable form.

Particular Judgment.

That it is not a suitable form has been already shown, and the increasing definiteness of the ideas only makes the imperfection of the formula more plainly obvious. Again we find an Individual and a Universal, with no possible connexion between them except identity, which identity is impossible by their very definitions. We must pass on. Instead of taking a single Individual, we must take, as the form of Subsumption entitles us to do, several Individuals at once. Thus we reach the Particular Judgment,—"Some roses are red".

It will be noticed that we have done more than increase indefinitely the number of the Individuals. Our Singular Judgment had only one Universal—red. But our Particular Judgment has two—rose and red.

[1] Read before the Aristotelian Society.

How, it may be asked, were we entitled to make this advance? It implies that whenever two or more things have one common quality, they will also have another. Now we are entitled to assume this, because we have seen that you can always find a common quality for any two things if only you go high enough. In the last resort there are qualities common to everything—that they are real, that they have external connexions, and so forth. So, when we have predicated a Universal of any two or more Individuals, however dissimilar in other respects those Individuals may prove to be, we know that some other Universal may always be found, which they have in common, and we shall be enabled to put our assertion in the form Some A are B—where A and B are both universals.

Of course, the higher we have to go for our second universal, the less information we get. "Some judges are corrupt" is a much more interesting and significant proposition than "Some officials are corrupt," and the latter again is an improvement on the more general proposition "Some men are corrupt". But although the importance of the proposition which we can obtain may vary, some proposition of this form will always be true. Every Universal will have more than one Individual under it, and these Individuals can always be stated as coming under yet another Universal.

And this fresh way of stating them is essential. For merely to take a plurality of isolated Individuals instead of a single one, would not solve the problem, but leave it as hopeless as before. The same difficulty would occur about each Individual separately, and the only change would be that it would be repeated many times over. It is not transcended till we have grouped the Individuals under another Universal, and so made the Judgment the expression of the relation between two Universals.

Judgment of Allness.

To make it more definite must be our next step. A Particular Judgment can never be a full account of the facts to be explained. It marks out a class and says that some members have a certain quality, and some have not. This, taken by itself, is to assert of each member of the class the same proposition,—it may or may not have the quality. But this is not the truth. Of some members of the class we must say, if we are to speak the truth, This has the quality; of others we must say This has not the quality. Instead of making the same problematic statement about all of them,

we must make one of two definite statements about each of them.

Now we cannot take them one by one, and, pointing to each in turn, say This has it, This has not it, and so on. For then we should have got back to predicating Universals of mere Individuals as such, and this we have seen already to be inadmissible. Since the Individuals of the subject, then, are not to be taken as Individuals, they must be united by a Universal—there is no other way. And we have just seen that it will not do to unite them by a Universal which covers more Individuals besides them, since this will give only a Particular Judgment. There is only one course left. We must group our Individuals by means of a Subject-Universal which just covers them, so that we can say that wherever the Subject-Universal is found the Predicate-Universal will be found too. In other words, we must be able to make general propositions. We must be able to say All A are B. All the Individuals, of which the predicate can be affirmed, need not indeed be brought under the same Subject-Universal. That would mean that we had discovered an invariable antecedent to B, and could say, not only that All A is B, but that All B is A. This is unnecessary. What we must be able to do is to bring all the Individuals, of which B is predicated, under some Subject-Universal or another, so that, whenever we predicate B, we have some Universal which is invariably accompanied by B.

The advance which is made in this category is evident and striking. Here, for the first time, we become entitled to assert general propositions. That is to say, for the first time science becomes possible. However certainly and clearly it be known that everything stood in relations of reciprocal causality with everything else, and that nothing happened without a cause, this would be insufficient for science. Unless the results of that determination could be expressed in general propositions, so that we can say that some are always or never found in conjunction with others, it would be impossible to classify, to predict, or to explain.

The step is important, and it is one at which the sceptic often stops. He will admit, sometimes, that there really are general qualities—qualities possessed by more than one Individual, but he will deny that there really are any general laws connecting one quality with another. He does not merely assert that the general laws which we have in fact discovered have much that is subjective and erroneous about them, which no one could deny to be true in the present imperfect state of our knowledge. He asserts, further, that

there are no valid and objective laws to be found, that the objective truth lies only in the particular Individuals, that the uniformities we have found, when true, are merely accidental, and that we have no right to assume that they do exist in cases where they have not yet been found.

It may be worth while, therefore, to recapitulate the steps which have led us to our present conclusion. The Individuals of which a certain Universal can be predicated must be either isolated or connected. If they are connected it can only be by a second Universal introduced into the Subject. Now this Subject-Universal may either include other Individuals of which the Predicate-Universal is not true, or it may include only those to which the Predicate-Universal does apply. We have thus three cases. The first gives the Singular Judgment, and that we have seen, in the Judgment of Inherence, to lead to contradictions if we try to take it as an independent and adequate form. The second gives the Particular Judgment, which we have also seen to be inadequate as an independent form, since it only predicates the same uncertainty about all the members of a class, although the truth is that some of them are certainly one thing, and some of them certainly the other. There remains only the third alternative, and this gives what Hegel calls the Judgment of Allness—All things which have the Subject-Universal have the Predicate-Universal.

That it is by the Judgment of Allness we are to escape from our difficulty, if we are to escape from it at all, seems clear, since it is the only alternative left. But can we escape in this way? Does the Judgment of Allness avoid the difficulties which made us surrender successively the Singular and the Particular Judgments?

The defect of the Particular Judgment is obviously removed by it. That defect was that it did not enable us to say definitely of each Individual included in the Subject, whether it did or did not possess the Predicate. But with the Judgment of Allness we can say definitely of each of those Individuals that it does possess the Predicate.

The defect of the Singular Judgment lay, as we have seen, in the fact that the Subject and the Predicate could not be regarded as identical. Nor are they identical in the Judgment of Allness. If we say All lions are mammals, it is true that there are many mammals which are not lions, and that lions have many qualities not shared by the rest of the mammalia. But we have now risen to a point at which it is no longer necessary to identify the Subject and the Predicate. We do not require to say here that the

Subject-Universal and the Predicate-Universal are in any sense identical. Our proposition only means that, wherever the Subject is found, the Predicate will be found also. This relation was not possible in the Singular Judgment, because the Subject there is a mere Individual, and therefore had no significance apart from the Universal, since, as we had previously seen, its whole nature was made up of Universals. It had not enough independence to enter into any relation with the Universal which required it to be in any way distinguished from the Universal. Its relation could only be simple identity—if that can be called a relation—and that was contradictory. Now, on the other hand, the Subject, defined by a Universal, has an independent meaning, and can enter into a different relation with the Predicate. We speak now, not of identity, but of the co-existence of Universals. There is therefore no longer any difficulty in the fact that the two Universals have different connotations and denotations, and thus the Judgment of Allness has vindicated its right to be considered as a synthesis, since it has transcended the defects both of thesis and antithesis.

The result gained may be stated from another point of view —that it is impossible to suppose that the only connexion of the various Universals which are found in any Individual is its mere abstract Individuality, and that the Universals have no connexions among themselves. For the abstract Individuality, as distinct from the Universals, is a mere nonentity, incapable of bearing this, or any other, burden. If the Universals are found together—and that we saw they must be—there must be some ground of connexion between Universals themselves.

In thus transcending Singular and Particular Judgments, we do not, of course, pronounce them to be false, but only inadequate. It may be quite true to say "This is red". What we have gained in this triad is the knowledge that This (whatever it may be) could not be red, unless it belonged to some class of things, defined by some other Universal, of all of which redness might be predicated.

We now leave the Individual for the present. Our Judgment has become a relation between Universals, and the rest of the Subjective Notion is occupied in developing this relation. A certain one-sidedness caused by this will be counterbalanced in the Objective notion and synthesised in the Idea.

Judgment of Necessity.

Categorical Judgment.

The general propositions, such as All A is B, which we reached in the Judgment of Allness, involve the existence of some connexion between the Universals A and B. Such a proposition cannot merely mean that we have enumerated all the Individuals who have the quality A, and, finding out that each of them has the quality B, have summed up our various discoveries. For such Judgments would not be Universal at all. They would be mere collections of Singular Judgments, and therefore, of course, unable to perform their task of transcending the defects of Singular Judgments. Our Judgments of Allness then mean that the possession of the one Universal is connected with the possession of the other, not merely by a uniform accident but by some relation between the Universals which brings it about as a necessity.[1] This brings us to the next triad, which Hegel calls the Judgment of Necessity. The first form of this is the Categorical Judgment. This, as is to be expected, is practically identical with the Judgment of Allness. It only affirms, in so many words, that connexion between the Universals which formed the essence of the Judgment of Allness. This slight increase in explicitness is marked by discarding the form of Subsumption which was still left in the Judgment of Allness. That is, instead of saying "All lions are mammals," we now say "The lion is a mammal". Or again, instead of "All Privy Councillors are styled Right Honourable," we say "The Privy Councillor is styled Right Honourable". The last example may serve to remind us that the Categorical Judgment is not confined to ultimate truths, nor to propositions dealing with what Mill calls Natural Kinds. Any connexion, which can be asserted as always existing between two Universals, can be expressed in a Categorical Judgment.

Hypothetical Judgment.

This is only a more explicit way of putting the connexion between Universals which constitutes the Categorical Judgment. It follows immediately from the Categorical Judgment. If we say "The A is B," this asserts that B is one of

[1] Whether this necessity may not be *based* on a number of Singular Judgments, although it cannot *be* those Judgments, is another question. We shall have to discuss it later on, when we come to deal with the Syllogism of Reflexion.

the qualities of every A. A, of course, has other qualities. Let these other qualities be called X. Then it is at once clear that, if anything is X, it is B. Here we have the Hypothetical Judgment. The advance, such as it is, consists in eliminating the slight suggestion of Subsumption, which remains even in the Categorical Judgment, and so bringing out more clearly the necessary connexion between Universals which is the essence of the Judgment of Necessity.

Disjunctive Judgment.

It is clear that Categorical and Hypothetical Judgments do not admit of simple conversion. It does not follow because all A is B, that all B will be A. It may be so in some cases, but we can never logically advance from the one statement to the other. And we know that in all cases it cannot be so. For if all Judgments were simply convertible a Universal could never be connected by them with any Universal wider than itself. And thus we could never express by Universals the relation between two Individuals which resembled one another in some points but not in others. And since we saw that the nature of Individuals could only be expressed by Universals, this involves that such a relation could not be expressed at all. And, as it has already been shown that every Individual must be like and unlike every other, it follows that it would be impossible by such Judgments to express the nature of Individuals at all.

We know, therefore, that in some of our Judgments of Necessity the Predicate will be wider than the Subject. All A are B, but there are some B which are not A. Now these Individuals which are not A cannot be B as simply isolated Individuals, as was proved above. Each of them must have some Universal, with which B is invariably connected by another Categorical Judgment. How many of these there may be we do not know, but we know that every case of B must have one of them. Thus we arrive at the conclusion, all B is either A, or C, or D, where C and D represent an unknown number of Universals. This is the Disjunctive Judgment.

The view of the universe which results from the establishment of the validity of this category can be stated as follows: The similarities and dissimilarities of Individuals may be expressed by general propositions concerning the relations of Universals of different extent, which are such that the presence of the narrower Universal implies the

presence of the wider, and that the presence of the wider Universal implies the presence of one of a certain number of the narrower.

This, of course, like all the categories to which Hegel has given the names of Judgment and Syllogism, relates to the reality which is the object of knowledge, and not to the mental processes by which we come to know it. The repetition of this may not be unnecessary, since the constant use of the terms of formal logic is apt to confuse the student the moment he is off his guard. In this case the distinction is clear. From the admission that reality is such that it cannot be adequately expressed without Categorical Judgments, it has been easy to deduce that it is such that it cannot be expressed without Disjunctive Judgments. But if our knowledge entitles us to make a Categorical Judgment on any subject, it by no means follows that it will entitle us to make the corresponding Disjunctive. We may know that the lion is a mammal, and be very far from knowing the complete list of species to one of which every mammal must belong.[1]

SYLLOGISM.

Qualitative Syllogism.

Another question now arises, and compels us to enter the third and last division of the Subjective Notion. We have said that two Universals are necessarily connected. How, and by what, is this necessary connexion made? It is a connexion of two Universals which are not identical, for if they were the proposition would be utterly trivial. On what can we base this union in difference?

To the triad in which this point is settled Hegel gives the name of Syllogism. This seems to me an inappropriate term. The first of the three divisions does indeed correspond closely to the Syllogism of Formal Logic. But the second corresponds to Induction, which is not usually called a Syllogism. To the third division the name is still more inappropriate, since in it the necessity of mediation by a third term is, as we shall see, transcended altogether. But, in the absence of a better name, it will perhaps be advisable to retain this one.

The problem which we have now before us is one which

[1] I have omitted Hegel's triad of Judgments of the Notion (see Note C, which, with the other notes of the series, is here omitted for want of space).

might have presented itself at any point in the Judgment of Necessity. For as soon as it was realised that the connexion between the two terms in the Judgment was asserted as necessary, the question as to the ground of that connexion will require an answer. It becomes however more imperative when the Judgment of Necessity has completed its development, and assumed the form of the Disjunctive Judgment. For when we find that B is, in some cases A, in some C, and in some D, the need for a cause of these varied relations becomes more obvious, though not more real, than when we affirmed the uniform relation All A is B.

Now, if we try to answer this question by inserting a middle term between the two Universals, this middle term must either be another Universal or else one or more Individuals. There is no other alternative. As we have already established the fact that there *is* some connexion between Universals, it will be natural to try and avail ourselves of this as the middle term. We connect A with M, and M with B. In this way we should assert that the manner in which Universals were connected was expressed by the ordinary Syllogisms of deductive formal logic. The simplest examples of these are to be found in the mood Barbara—for example, "All men are mortal, all philosophers are men, therefore all philosophers are mortal".

Hegel calls the middle term of the Qualitative Syllogism Particularity.[1] This does not appear to have any very definite connexion with the Particular Notion, as it was described previously. What it seems to signify is that the Universal does not here manifest its true nature (which will become evident in the last subdivision of all), by which it is inherently and ultimately connected with other Universals, but is, on the contrary, regarded as a hard and fast unit, which can only be connected with anything else by external links. But why this should be called Particularity is not obvious.[2]

Syllogism of Reflexion.

To connect two Universals by means of another is often a perfectly legitimate and indispensable process. But if we take this method of connexion as a category, and so claim for it universal validity, we find that it is contradictory. The problem, to solve which it arose, was How can two

[1] *Enc.*, section 182.

[2] Hegel divides the Qualitative Syllogism into the First, Second, and Third figures. But this seems to me to be indefensible (see Note D).

Universals ever be connected? The answer here given is By the connexion of each with a Universal. This answer presupposes the solution of the difficulty it proposes to solve, and is therefore worthless.

And so, if we ever tried to explain anything by this principle, we should be involved in a False Infinite. When—to take our former example—we have connected philosophers and mortality, by using man as a middle term, we should have to find two other middle terms—one to connect philosophers and man, the other to connect man and mortal. When we had found these, four more would be required to connect them with the terms which they were to connect, and thus we should only solve one problem by raising two more, and so on for ever.

If a Universal will not serve as the middle term, there is only one alternative left, if we are to have a middle term at all—the Individual. With the attempt to make the Individual the middle term we reach what Hegel calls the Syllogism of Reflexion.[1] We have already seen that it is impossible that the Universal Judgment should be *equivalent* to a series of Judgments about mere Individuals. We have now to consider whether the Universal Judgment can be *based* upon such a series.

Laws of Nature.

Categorical Laws.

To do this is impossible. We saw, in dealing with the Judgments of Inherence and Subsumption, that a Judgment about an Individual could only be valid when it was dependent upon a Universal Judgment, and that an Individual Judgment taken by itself is contradictory and inadequate. Since all Individual Judgments must be based upon Universal Judgments, it is obviously out of the question that all Universal Judgments should be based upon Individual Judgments.

What is to be done now? We have reached the conclusion that to demand the mediation of all Universal Judgments is useless. Whether we attempt to mediate, then, by Universals or by Individuals, we find that insuperable difficulties present themselves. Only one alternative remains—to deny the necessity of mediation, at least as a universal requirement.

In this way alone shall we be able to escape from our

[1] This also is divided by Hegel into three subdivisions (see Note E).

difficulties. We are led to the conclusion that there exist certain laws—certain conjunctions of Universals which do not require explanation, but are themselves the basis from which everything else can be explained. These ultimately valid Judgments I should propose to call Laws of Nature.[1]

Not all Judgments of Necessity are Laws of Nature. Many of them are merely subordinate and derivative, and can be deduced from others. But the existence of those Judgments which are not Laws of Nature is only possible on the supposition that there are others which are Laws of Nature, and from which the subordinate Judgments can be deduced.

Nor, again, is it meant that we can know these Laws of Nature *a priori*. We know *a priori* by the dialectic that there must be such laws, and that all Universal Judgments must be deducible from them. But what they are can only be known to us empirically and by induction, and so can never be known with absolute certainty. This of course does not make the existence of the category any less certain *a priori*. This point is important, as Hegel's assertion, that we know *a priori* that there are such Laws, seems sometimes to have led to the impression that he supposed that we could deduce the Laws themselves by pure thought. The real state of the case may be illustrated by the lower categories. The category of Quantum tells us that everything must have a definite magnitude. This is certain *a priori*, although we can never find out the magnitude of any particular thing except by an empirical process of measuring, into which it is always possible that some small inaccuracy has crept.

Our result is, then, that there exist certain laws in the universe which are not merely analytic, which are not deducible from others, and which are not mere generalisations from instances, although they can only become known to us by generalisation from instances. The first two points would, I suppose, be almost universally admitted. Few people would be disposed to deny that it is impossible that every truth should rest on another without any being ultimate. And, in the present day at least, it would be generally allowed that it is impossible to reduce all our knowledge to merely analytic propositions.

But it is sometimes asserted that general laws have no objective validity at all. All that is really objective, it is said, is the various Individuals, together with the qualities which

[1] See Mill's *Logic*, book iii., chap. iv., section 1. For Hegel's nomenclature in this triad see Note F.

render them like or unlike one another. If we find two qualities together in several cases, we have a tendency to expect one whenever we see the other, and we find that this tendency, when we take certain precautions, is so often right as to be of great assistance to us. Indeed life would be impossible except for it. But the general propositions thus formed are mere creations of our minds, and have nothing corresponding to them in the objective world, which consists of nothing but particular facts.

We have seen that this view is untenable, since it involves the ultimate validity of Judgments dealing with Individuals as such. But it may be worth while to consider it from another standpoint and to show that the process of Induction cannot lead to any valid conclusions whatever, except on the hypothesis that some Universal Judgments have objective validity, and that the purpose of Induction is to discover, and not to create, those Judgments.

All Induction can be reduced to this typical formula, This is A and B, that is A, therefore that is B. All the elaborate devices of science are based on this,—that the presence of one quality in a thing is a ground for expressing the presence of another quality, which has on other occasions been found in company with the first. Now if we assume that there are objective Universal Judgments,—that one quality is objectively connected with another—then the presence, in any case, of two qualities in the same thing, gives some reason for supposing that they are connected, and will therefore be found together elsewhere. The mere occurrence in a single case would, indeed, be a very slight ground for such a conclusion, but one which might be indefinitely strengthened if several other instances were examined, and also found to possess both qualities, and if these instances were such as to render a mere chance coincidence improbable. In this way an Induction may be strengthened till it reaches almost complete certainty.

But on the hypothesis we are now considering there is no objective connexion of Universals which we can presuppose —only a subjective connexion, which is merely the result of the Induction, and cannot therefore be assumed in making the Induction. It therefore follows, that, in making the Induction, we have not the least right to assume even the slightest probability of A being really connected with B, in the first of the two cases. The fact that each of the two cases is A must be struck out as irrelevant. Our formula then becomes This is B, therefore that is B,—which is plainly absurd, since, if it had any validity, it would enable

us to predicate any quality, which was possessed by any Individual, of every other Individual in the universe.

It is evident that on this we can found, not only no approach to certainty, but no probability or presumption, even of the lightest kind. If two Universals are never connected, except in our subjective expectations, then the presence of two Universals in one Individual can never give the least probability that one of them will be accompanied by the other in another Individual. If, on the other hand, two Universals are really connected, then general laws have objective existence, and are not merely our inferences from particular cases.

Our antagonist may, however, take up a more definitely sceptical position. He may admit that the inference which is made in Induction is perfectly unjustifiable from a logical point of view,—that the conclusion is not made in the slightest degree probable by the premises. But he may say that he never put it forward as logically justifiable, but simply as actually existing. We have, he may say, a natural tendency to expect B to accompany A in one case, if we have seen that it accompanies A in another. We may not be able to justify this impulse, but we cannot deny the psychological fact that we have it.

This position however involves a contradiction. For it denies the validity of general propositions by an argument of which general propositions are essential links. No general proposition is logically defensible—this is itself a general proposition. If, therefore, we make it, by that very act we condemn it as logically indefensible. It is impossible to state this view without denying it, and the result would be, not merely the rejection of one species of knowledge, but complete and utter scepticism. And complete scepticism is in the same plight as self-contradiction. For if you assert that nothing is certain, you assert, among other things, that your denial of certainty is not certain.

Besides these general considerations an argument *ad homines* may be addressed to those who assert the basis of inference to be an irrational impulse. They do, in point of fact, trust to it. And not only do they trust inferences when they have made them, but they take great trouble to put themselves in a position to make more. They conduct, or speak with approval of others who conduct, researches in physical science. They laboriously accumulate instances, and examine what general qualities are found in combination in them, for no other purpose, on their own showing, than that they may become the victims of an irresistible, though

indefensible, impulse to believe that in other instances, as yet untested, the presence of one of these qualities will be a mark of the presence of the other.

Their answer is that it is found in practice that to trust to this impulse produces on the whole useful results, and that, indeed, if we did not trust to it, it would be impossible to live at all. Now it has, no doubt, been found in the past that such inferences, if made with certain precautions, will in many cases be useful. But why should this cause us to trust them in the future? Only if we make an inference from the utility of some inferences in the past to the utility of other inferences in the future. And thus our attempt to give a merely practical value to inference breaks down, since we cannot do it unless we admit one inference at the least to be logically defensible.

To return from this digression—the simplest form which the Law of Nature can assume will be the Categorical; for example, "The lion is a mammal". The proposition, it will be noticed, is exactly the same in its external form as that of any other Categorical Judgment. It differs from the latter only in the implication that it is one of those Judgments, which we have now seen must exist, which are true, not as deductions from any other, but in their own right. As knowledge advances many propositions, which were once accepted as ultimate, and considered to be Laws of Nature, are found to be deducible from others, and lose that title. Our conviction that a certain Judgment deserves to rank among ultimate Laws is generally only negative—*i.e.* it rests on our inability, for the present at any rate, to find a more fundamental Judgment on which to base it.

Hypothetical Laws.

This transition is exactly the same as the corresponding one under the head of the Judgment of Necessity. All Categorical Judgments have their Hypothetical equivalents, which are true if the Categorical Judgments are true, and this applies, of course, to those ultimate Judgments which are called Laws of Nature. If it is an ultimate truth that the lion is a mammal, it is also an ultimate truth that, if anything possesses the qualities which define a lion, it will be a mammal.

Disjunctive Laws.

Here, too, the transition is the same as in Judgments of Necessity. Since the various Universals have between them

to unite and to differentiate everything in the universe, their ultimate connexions must, in some cases at least, be between Universals of different extent. It will happen then with Categorical Laws, as it did with Categorical Judgments, that in some cases the Predicate-Universal will be wider than the Subject-Universal. The Individuals included under this further extent of the Predicate, must be connected with it by one or more other Subject-Universals. And so, by enumerating all the narrower Universals which come under a wider one, we get the Disjunctive Law—the final form of the Subjective Notion.

Here we have the essentially Hegelian idea of the self-differentiating Notion. The phrase is a rather alarming one, and seems to suggest mysterious and recondite activity. But the reality is simple. It means nothing but a Universal, which is always accompanied by one of a certain number of subordinate Universals which are not deducible from it, but which are peculiar to it. Thus, if we take the co-existence of the chief characteristics of animals as an ultimate truth, we may get the Law—All vertebrates are either mammals or fish (leaving out the other sub-classes for the sake of brevity). Every vertebrate will have one of these additional qualifications. They are not deducible from the mere idea of a vertebrate animal, in which there is nothing which would prevent all vertebrates from being mammals, or some of them from belonging to some sub-class which does not in fact exist. And the sub-classes are peculiar to the class, for there are no mammals or fish which are not vertebrate. This is the connexion of Universals which has been rendered necessary by the conception of Individuals as similar and dissimilar with which the Subjective Notion started.

The conception of a self-differentiating Notion has been rather misunderstood. It is sometimes supposed to mean that a Universal—when it is one of the ultimate Universals which enter into Laws of Nature—splits itself up by pure thought in the same way that the dialectic advances by pure thought. You have only to take the idea of a class and examine it with sufficient care, and it will proceed to develop the ideas of its sub-classes. In fact, the old story of the German who conducted his zoological studies by endeavouring to evolve the idea of a camel out of his inner consciousness, is scarcely a parody of what is supposed by some people to be Hegel's theory on this subject.

Such a theory is obviously incorrect, nor do I believe that there is the slightest evidence for the view that it was Hegel's. The only case in which Hegel professes to evolve

anything by pure thought is in the dialectic. He there evolves only categories, which are themselves forms of pure thought. The great majority, on the other hand, of the Universals which appear in Laws of Nature have an empirical element in them. And there is no evidence whatever that Hegel imagined that a new empirical idea could ever be produced by pure thought.

Nor, even in the dialectic, does Hegel give us a Notion differentiating itself by pure thought. The lower (in the sense of the less adequate) passes into the higher, but the higher (in the sense of the more extensive) never divides itself up into the lower.

The self-differentiation of the Notion, then, does not imply any inherent dialectic. It only means that it is an ultimate and inherent characteristic of the Notion that it is always united with one of several others. What these others are must be discovered by us through observation and experiment, and, when they are found, the conjunction must be accepted by us as an ultimate fact.

We have reached now the conception of a regular system of laws proceeding from the more general to the less general, embracing at the top the whole of reality in a single unity, and at the bottom accounting for every quality in every individual. This conception did not develop till the Disjunctive Laws were reached. A Categorical Law connects one Universal with another wider than itself, and leaves the rest of the extent of this wider universal undetermined. No Categorical Law, therefore, can deal with the whole of the field to which it refers. But in a Disjunctive Law the whole of the field covered by the Subject-Universal is systematically divided and determined. And, since all Individuals must have some common quality, the widest Subject-Universal to be found in any Disjunctive Law must be one which includes all reality, and the network of laws will be co-extensive with the universe.

Let us recapitulate briefly the more striking points in our advance. We started, in the Universal Notion as Such, with general qualities. We gained the idea of classification, for the first time, in the Particular Judgment, where, for the first time, we were concerned with the relation of two Universals. In the Categorical Judgment we made the all-important advance to universal truths, and in the Categorical Laws we perceived that universal truths were not only true, but ultimate. Finally, in the Disjunctive Laws we find that these ultimate general truths form a systematic whole.

In this process we see that the element of contingency

gradually becomes less and less. When we first reached Categorical Judgments we had no criterion of the importance of these Judgments. All Categorical Judgments which were true, were on a level. It was left entirely undetermined what things should be grouped with what, because it was left entirely undetermined what Universals we should begin by taking as the bases of our fundamental divisions. But we begin to transcend this contingency when we reach the Categorical Laws of Nature. For we know that these are ultimate, and all other Categorical Judgments can be deduced from them, and this gives us a standard of importance. Those relations between Individuals which are indicated by Laws of Nature are the vital and essential relations, and a classification is natural and significant in so far as it expresses these. And in the Disjunctive Laws this becomes more explicit. For there we see that the ultimate laws form a regular system, extending over all reality, and accounting, directly or indirectly, for all the qualities of everything. We have thus a complete classification objectively existing, and our particular classifications will have value in so far as they approximate to this.

Here the Subjective Notion ends. The question which will next arise—how are some Individual As determined to be B and not C, and others to be C and not B?—will carry us on to the Objective Notion.

IV.—ARISTOTLE'S THEORY OF INCONTINENCE —A CONTRIBUTION TO PRACTICAL ETHICS.[1]

By W. H. Fairbrother.

In his Introduction to the seventh book of the *Nicomachæan Ethics* Grant remarks: "The chief thing we have to complain of in this book is the too vague way in which Incontinence is treated. For the sake of forming a more definite notion of the standard of Greek morality, we could have wished a graphic portrait of the continent man, in the style of Aristotle's fourth book. As it is, we must be content to know that the continent man yields to temptation less, and the incontinent man more, than people in general."

This criticism, slight as it is, and of very questionable value, yet brings out indirectly an important truth, which cannot be too much before our minds whenever we are trying to estimate any portion of Aristotle's ethical teaching, *viz.*, that our test must be *practical* as well as theoretical—we might almost say practical and *not* theoretical. Like the carpenter to whom he compares himself in the first book of the *Ethics*, he values truth only so far as it is 'useful in practice,' and he holds that we study Ethical Science not (like other sciences) that "we may know what virtue is, but in order that we may become good".[2] If this is Aristotle's attitude towards Ethical study as a whole, it is peculiarly so in dealing with the all-important practical question of "doing what we know to be wrong". That a man may sin against a law, of the existence of which he is ignorant, is comprehensible, and needs no explanation. It is sufficient to note the fact and pass on. That, again, a man, of exceptionally strong will, might persuade himself that what other people (or people generally) think wrong is really right, or believe that ordinary moral distinctions are

[1] Read before the Aristotelian Society.

[2] *N. E.*, ii., 2, § 1. *Cf.* i., 3, § 6; x., 9, § 1.

a delusive, though highly convenient, refuge for the weak, and, so believing, deliberately pursue 'vicious' pleasure as his true 'end,' is a possibility which requires little demonstration intellectually, and may be seen manifest occasionally in actual life. These cases exist, they are ethically and practically interesting, they are worthy of careful portrayal both in themselves and in the effects they may be expected to produce upon the well-being of the community; but they admit of little dispute, they require little in the way of explanation, and they are comparatively infrequent. The greater proportion of the wrong-doing we see falls under neither of these categories. The average citizen, when brought to book for offences committed, often pleads extenuating circumstances—may sometimes urge that circumstances "were too much for him"—but he does not plead ignorance of that 'Morality formulated in Law,' *τὸ νόμιμον δίκαιον*, which as a citizen he knows he ought to obey; still less does he glory in striving after an 'end' abhorrent to the popular conscience. He 'knew it was wrong but he did it' is what he admits when honest with himself, and the truth of the admission is accepted without question by his fellow-citizens. To this general belief the whole institution of legal courts and sanctions is due, nor have they any other justification but the fact that by due punishment — by 'making an example'—they may help both the offender and his fellow-citizens to choose the right, and resist the temptation to wrong, in daily practice.

Here then is a fact of social life, not only interesting but puzzling, and so widespread that it becomes of the utmost practical importance to get a clear explanation of its nature and cause. Such explanation is far from obvious—it will demand lengthy and thorough investigation. But, to begin with, it is imperative to note that the so-called 'fact' is not *one* but *two*. Wrong-doing—even in the limited meaning we are now attaching to the word—falls into two distinct divisions: (1) acts of wrong, in the ordinary sense of the term; (2) acts of Incontinence. In the former case the offender not only 'does wrong,' he is also a 'wrong-doer'; in the latter, he does indeed 'do wrong,' but he is not a 'wrong-doer'.[1] This distinction is fundamental, necessitating for each case a separate, possibly an independent, explanation.

The first of these two cases, fortunately, is, in its essential nature, easy of comprehension and needs but a short ex-

[1] *Cf. N. E. passim, e.g.*, vii., 8, § 3, *οἱ ἀκρατεῖς ἄδικοι μὲν οὐκ εἰσίν, ἀδικοῦσι δέ.*

amination. Plato,[1] in his *Republic*, has explained, once and for all, the nature and origin of Moral Virtue and Vice in their ordinary forms. It is a question of training. By continually doing right things we get a habit of right-doing. Virtue is not 'born in us,' it arises from constant habituation (ἔθεσι καὶ ἀσκήσεσι) from infancy upwards, by which is gradually produced a 'power of preservation,' of 'holding to' that which we know to be right, which, when fully developed, it is beyond the capacity of any 'Chalestræan lye,' whether in the shape of pleasure or pain, fear or stress, to dissolve out of us. Conversely, absence of this training, or positive training of a different kind, makes us prone to wrong-doing, exactly as the doing of unhealthy things produces a diseased 'habit of body'.

So far the matter is intelligible and straightforward. The disease admits of easy diagnosis and the remedy is not far to seek. Both Plato—in his unpractical dreaming—and Lycurgus—in sober fact—have manifested the true method of dealing with it, *viz.*: a proper, thorough system of State education, of State training. We must avoid the errors into which they fell and work strictly upon the lines human nature affords us—not crediting it with an impossible unselfishness on the one hand, nor unduly limiting it by a merely 'physical' training on the other. The one takes us from solid earth into regions of empty fancy, the other reduces us almost to the level of the brute. Let us give full recognition to the true ἔργον τοῦ ἀνθρώπου, to all the elements which make up the nature of this very 'composite' creature man; let us formulate our results into a definite body of Law, which shall be taught by a 'State education,' enforced by the impersonal but irresistible State power, and Vice will practically disappear from among us.

But how are we to deal with the man whom no 'Education' can teach, better than he already knows, that a given action is wrong, in whom no training seems able to produce a 'Habit' which will resist any, beyond the slightest, temptation, and whom no power short of physical compulsion at the moment can, apparently, keep in the straight path? There are such men. They are common

[1] It is most curious to note how commentators have overlooked Aristotle's indebtedness to Plato here. Misled probably (but surely unpardonably?) by a few words of Aristotle himself, they generally represented him as the inventor of the 'Theory of Habit' (ἕξις) in *Ethics* as of the Syllogism in *Logic*. The latter point is indisputable, but the 'Theory of Habit' is identical verbatim with that found in the *Republic*. *Cf.*, *e.g.*, 518D, 444C, 429C, etc., etc.

enough to possess a well-recognised class name—the Incontinent, *οἱ ἀκρατεῖς*: in regard to them we despairingly cry, "When water sticks in a man's throat what can he drink to wash it down?"[1] But we ought not to despair. Their case must admit of that intelligible explanation which is the preliminary step to a practical remedy. One fact, indeed, which theoretically adds to our difficulties, gives us practically a hope of solution, *viz.:* that not only does the incontinent man *know* what is right in the given case, he (in some sense at least) *proposes* to do it. He does not, it is true, carry out this purpose, he acts *παρὰ τὴν προαίρεσιν*, but at least, until he falls actually into the temporary abnormal condition called Incontinence, both his intellectual conviction and moral purpose are on the right side. How comes it then that a man can do something which, at the time, he *knows* to be wrong and, in fact, would rather *not* do?

The problem, Aristotle sees clearly, is mainly a psychological one. Before, however, attempting to estimate his answer to this puzzling question it will be well to put clearly before our minds one or two considerations which will help us to understand the exact shape it took in Aristotle's own mind. In this way we shall not only clear the ground but definitely limit the discussion to the exact point at issue—an advantage which no one who has ever sought for assistance among Aristotelian commentators will regard lightly.

In the first place, all difficulties arising from the modern question of the 'Freedom of the Will' may be ignored. Quite generally, it is obvious that the Incontinent man has no 'Will' to speak of, and that all explanation (which is not purely negative) must be sought for in positive psychological, or physiological, elements which he admittedly possesses. More particularly it is clear that the 'Will,' as we understand it, was not an Aristotelian conception at all. He has no word for it and does not use it in Moral or Psychological problems. His material consists of elements called 'Reason' and 'Feeling,' and these are conceived of in a simple, natural manner. Reason gives us conceptions, ideas, 'ends'—Feeling affects us pleasantly, or otherwise, and has kinetic power.

Further, it is important, in view of current writing[2] upon

[1] *Cf. N. E.*, vii., 2, § 10.

[2] I refer to commentators such as Grant, and more particularly to the more thorough critical expositions of writers like Rassow, Dr. Stewart and Prof. Cook Wilson.

this subject, to beware of the danger—lurking in the very phrase, the Practical Syllogism—of limiting our attempt to understand Aristotle's doctrine too much to purely intellectual considerations. If Aristotle does give us nothing but an intellectual juggling performed under the sweet seductiveness of sensuous suggestion, if it is true that he offers us nothing better than "broken knowledge and moral obliviousness," it is clear that he stultifies his own teaching, and forgets the problem he himself formulates. A 'trick of the intellect,' a 'sophism of the imagination'—these imply the admission of that Socratic heresy which Aristotle sets himself to destroy, and, much worse, amount to a denial of the possibility of Incontinence altogether, with the unendurable consequence, man's moral irresponsibility. Throughout the *Nic. Ethics*, and the *De Anima*, nothing is clearer than Aristotle's insistence upon human responsibility. No actions are involuntary except those done under 'physical compulsion' or through 'ignorance of the particular fact,' which, just for these reasons, are not actions at all, properly speaking, but 'movements'. The incontinent man, if not (possibly) the 'efficient cause of his actions' in the fullest sense, is sufficiently so to be held responsible, and morally blameworthy, for them. He cannot escape by pleading 'potential' *versus* 'actual' knowledge,[1] or by urging some sad 'error of judgment'. To confine, again, Aristotle's analysis to these intellectual elements is to ignore that moral 'struggle' in which the essential nature of Incontinence consists. Incontinence arises from the fact that the human mind is composed not only of a 'rational' part, but also of 'something else which fights and strains against Reason'.[2] It would be tedious to enlarge further upon this point. We must believe, without further parley, that in his attempt to solve the problem of Incontinence Aristotle kept clearly before him the convictions (1) that man is morally responsible for this, as for all other, kind of wrong-doing; (2) that Incontinence consists primarily of a struggle between two different psychical elements—Reason and Feeling — and of the victory of the latter over the former; (3) that, consequently, no 'Sophistic' attempt to explain the phenomenon as due to fallacious reasoning, to

[1] It is interesting to note here that Prof. Cook Wilson, believing that *Nic. Eth.*, vii., 3, offers us only a subtle analysis of 'kinds of knowledge,' concludes, legitimately enough on that assumption, that this portion of bk. vii. is neither Aristotelian nor Eudemian.

[2] *Cf. Nic. Eth.*, i., 13, § 15, *et passim.*

incomplete apprehension of the facts, etc., etc., can be finally satisfactory. From these convictions it follows that the problem narrows itself to a single question, *viz.*, *τί κινεῖ τὰ μόρια*—what is the actual efficient cause of that physical movement in which every action outwardly consists? The man, the moment before the act, is, to outward observation, at rest. "What then is it," asks analytic practical Aristotle, "which produces that sudden stretching out of the hand, that hasty raising to the mouth, that passionate suction of the lips, which together make up the immoral act called 'tasting the forbidden thing'?" Answer this question truthfully and the problem is solved. At one stroke we shall free ourselves from those endless dialectical subtleties, based upon true but irrelevant distinctions between 'knowledge,' 'opinion' and the like, which have hitherto occupied men's minds. The problem is: 'What moves the limbs?' These distinctions, important though they are, all fall within the region of Reason alone, and Reason alone cannot 'move'.

The question, as thus stated, Aristotle attempts to answer in the third chapter of the *Nic. Eth.*, bk. vii., and, more particularly, in §§ 9-11 of that chapter, where he examines it, in his own phrase, *φυσικῶς*—according to its true essential nature. We may summarise this chapter as follows:—

"It is disputed whether the incontinent man sins *knowingly* or not, and in what sense of the word *knowing*. In regard to this problem we say:—

"(1) In the first place the distinction which some ingenious reasoners draw between 'true opinion' and 'knowledge' will not help us here. They argue that the incontinent man is fully conscious, both of what he is doing and that it is wrong to do it, but that this consciousness is not that knowledge which amounts to demonstrated truth — not knowledge proper—but merely 'opinion'. In this way they save the claim of 'knowledge' to be all-convincing and all-powerful, without adopting the absurd alternative that the incontinent man does not know what he is doing. This distinction is important in itself, and in its application to science, but irrelevant to the moral problem before us. In many cases the incontinent man is unaware that the opinion he holds is merely opinion; he imagines it to be absolute, demonstrated truth (*ἀκριβῶς εἰδέναι*), and in any case the question is not whether his opinion be true or not, but how he comes to act contrary to it. In other words, how is it possible for him to do what he *believes* to be wrong? Such

belief, though often mere prejudice, may be as strongly held as scientific knowledge could ever be.

"(2) In the second place we must note that there are several ways of 'sinning against knowledge' *in a sense* (πως) which do not amount to Incontinence, though they look like it at first sight and are readily confused with it. Such confusion is easy because the judgment 'This man has done what he (as an educated citizen) must know to be wrong' is true, if the necessary qualifications be added, and it is easy to forget these qualifications. Let us look at the three commonest forms of this pseudo-incontinence:—

"(*a*) The man *has* the knowledge but does not *use* it. [Any case of absent-mindedness will illustrate this. The respectable citizen knows he ought not to carry off in his pocket the pencil-case lent to him for a moment, but does so unconsciously while thinking of something else.]

"(*b*) The man both *has* and is *using* the knowledge, *i.e.*, he is consciously bearing in mind the moral law, 'Theft is wrong,' but makes some innocent mistake in application. He uses the 'major' but not the 'minor'. He remembers, again, that such and such food is beneficial to man but does not know that the particular food before him is of that kind. Such misapplications of knowledge, or deficiencies in knowledge, are simply endless, and will easily account for many actions which seem to us at times so astonishing.

"(*c*) The man may *have* the knowledge, as a permanent mental possession, but not have it *available at the moment* owing to physical causes. He may be half asleep, mad, or drunk, and in this state may gravely give utterance to all the wisdom of Empedocles without in the least 'knowing' in the sense required for our present purpose.

"All these and other such cases lend themselves readily to sophistic puzzles, and have served, and do still serve, to provide material for profitless discussion, but they are all irrelevant to the real question at issue. In regard to none of them can it be truly said: 'The man has done something which *he knew at the time* to be wrong'. But the statement of them has cleared the ground. We know now exactly what has to be explained and can proceed to the real root (φυσικῶς) of the matter.

"(3) The true nature of Incontinence may be best exhibited by means of the 'Practical Syllogism'. This form of argument differs in no respect *formally* from any other Syllogism, but it has for its *matter* something which is not of merely abstract or scientific interest but which affects us practically as living and sentient creatures. Hence from the first an

element of 'Feeling' (*αἴσθησις*) necessarily (*ἤδη*) comes in, and the 'minor' premiss remains no mere logical particular but asserts a concrete 'moving' fact actually present. To illustrate:—

> All sweet things are fitting to be tasted,[1]
> This particular thing here to my hand is sweet,
> *ergo*, This is fitting to be tasted.

"Here we have a Syllogism the conclusion of which is incontrovertible logically, but the subject-matter of which remains no mere truth of abstract reasoning. It contains a concrete physical element affecting the sentient organism, which prompts 'movement' in such a way that (assuming nothing to come in as a hindrance) the reasoner necessarily both recognises the truth of the conclusion and proceeds to eat the sweetmeat.

"Bearing this characteristic of the practical syllogism in mind let us see how it accounts for Incontinence. Suppose (as is often the case in fact) there are in the mind not one, but two, universal judgments—both equally true and both, as a rule, equally right to carry out in practical application, but which, owing to some 'accidental' cause, are for the moment in opposition; *i.e.*, *at this moment* it is right to follow out the one, wrong to act according to the other. As universal judgments they are purely intellectual facts and neither of them can 'move' (each of them *λέγει οὐ κινεῖ*), but, unfortunately for the poor weakling we are thinking of, the one he ought *not* to act according to is exemplified in some concrete sensible thing before him. This 'affects' him, not intellectually but physically, it raises a feeling of pleasure and consequent desire, and the 'opposition' or 'struggle' becomes no longer the strife between two, as it were, distant voices saying respectively 'Come here' and 'Go there,' but between one of those voices still appealing, 'Come here,' on the one side, and, on the other, a physical force which literally 'drags' him in the opposite direction. *ἡ μὲν οὖν λέγει φεύγειν τοῦτο, ἡ δ' ἐπιθυμία ἄγει.* The problem, we remember, is, 'What moves the limbs?' and Feeling (excited by the definite object before him) can move the limbs, whereas intellectual truths, not exemplified in this manner, cannot. We have to remember too that what the incontinent

[1] The substitution, a few lines *infra*, of the word *ἡδὺ* for the phrase *γεύεσθαι δεῖ* shows that the word *δεῖ* has here the ordinary simple meaning it always bears in Aristotle, and has nothing to do with such a conception as that of 'ought'.

man does is not *in itself* wrong, it is only unfitting at the time. The argument—

> All sweet things are pleasant to take,
> This thing here is sweet,
> *ergo*, This is pleasant to take,

is valid in itself and conflicts with no moral truth whatsoever. It is only when, owing to other 'accidental' considerations, it becomes our duty for the moment to do something else, that not the major premiss, but the application of it, becomes 'opposed to right reason'."

Such, as it seems to me, is Aristotle's natural straightforward analysis of the phenomenon in question. The incontinent man, like every one else, has varied social relations, each of which may be formulated into a 'rule'—a 'universal'. These moral rules are all true and, in general, do not conflict with each other, but any two of them may, *κατὰ συμβεβηκός*, do so at a given moment. For example (to take the first illustration which occurs to me as I write) I, as a 'married Don,' have social duties to both College and wife. We may formulate these as "I ought to dine in Hall regularly twice in the week"—"I ought not to leave my wife alone unnecessarily". Do these universals conflict? Assuredly not, as a rule, but if, on one of my College nights, it (in Aristotelian phrase) 'happens to the wife' to be ill, they 'accidentally' do come into opposition. Such 'oppositions' are of commonest occurrence and it is needless to multiply illustrations. Why does the incontinent man 'act according to' the wrong universal? Because, said many thinkers at that time, under the influence of desire he performs an intellectual trick—he forgets to apply a 'minor' to the right universal, he applies a minor to the wrong one, or forgets the right one altogether,[1] etc., etc., etc. No! says Aristotle, he does none of these things because, poor fellow, they are *already done for him*. The 'minor' is already there, it is thrust upon him, it 'moves' him, he cannot escape except by resisting it, and there is no 'moving' power in him to enable him to do this. In modern times the powerlessness of 'good advice' against temptation is proverbial. Aristotle explains this simply—the one 'speaks,' the other

[1] Our leading modern commentators seem to me to fall into similar mistakes. They talk of "*applying* a minor *premiss* to the right moral principle" and so forth. Much subtle discussion, as to the exact method of such intellectual sophistry, thus arises, which would be saved if we remembered steadily that, to Aristotle, the crux of the matter is, 'What moves the limbs?'

'drags'. The incontinent man is not to blame for this in the first instance. He does not seek the temptation, he constructs of his own initiative no misleading syllogism. Left to himself he would go right, not wrong. He struggles to go right as it is and rues his fall bitterly afterwards, for he is a man of good intention, warm heart, and strong feeling.

We might, perhaps, represent Aristotle's doctrine more clearly by the image of a pair of scales. Then, if our incontinent man be any ordinary workman, we should have, hanging at one end, the universal judgment, "Men, after work, should look after their wives and families," at the other, the judgment, "A pleasant supper with a mate on his birthday is most enjoyable". [These do not, as a rule, conflict, but, owing to some 'accidental' domestic event, do so on the evening in question.] So far the scales are evenly balanced and the man, left to himself, would go home. But, unluckily, to the second, and wrong, universal, is attached a 'minor' consisting not of a particular proposition but of a concrete fact, *viz.*: the warm pressure of a friendly arm, the sweet savour of a toothsome dish, the provoking glimpse of a black bottle, supported by sugar and a lemon, beyond the half-open cupboard door. These make up a serious addition to this end of the scale—they tickle his nostrils, affect his muscles, they physically 'move' him. The universal judgment, at the other end, still 'speaks,' but the desire produced by the concrete particular 'drags' (λέγει . . . ἄγει); and there can be no doubt which end of the scale will kick the beam. There is a 'struggle' doubtless—its length and severity depending upon the individual case, for men differ in degree of incontinence, and temptations differ in strength —but that 'universal' which is 'active' (ἐνεργεῖ) in a concrete fact is bound to win, unless something, equally practically effective, can be attached to the universal at the other end of the scale. If the latter happen to be the case to begin with, no incontinence takes place at all. The man's heart is in the right place, and the mere presence, on a Bank Holiday, of 'loving wife or sweetheart kind' ensures with ease conduct which, without that physical presence, might seem impossible.

With what Justice, then, can the incontinent man be held morally blameworthy for his actions? The forces which act upon him are not of his own choosing; they come upon him from the outside, and, in default of that 'trained Habit' which his softer nature prevents his possessing, he is bound to move, or rather 'be moved,' along the line of least resistance. Does not the explanation just given prove too

much? It does away with that touching Socratic delusion as to the impossibility of sinning against knowledge, but only at the price of abolishing the 'sin' itself.

For Aristotle's answer to this question we must look to the *De Anima*, not to the *Ethics*. In the latter his task is to show *that*, and *how*, Incontinence takes place, not to explain or justify the moral reprobation we attach to it. This justification, obviously, can only be found in the presence of some psychological factor which the weakness of even the incontinent man does not entirely deprive him of. There must be somewhere available a Kinetic element capable of 'moving the limbs' in the other direction. *Ex hypothesi* this cannot be a sensible object; it must be something mental and subjective, not physical and objective, something, *i.e.*, having its origin in the mind itself, not in a stimulus to Feeling from without. Is there anything of this kind to be found?

In one sense of the term Aristotle answers 'No!' That is, he declines to introduce any third element, or Faculty, in addition to Reason and Feeling (*διάνοια καὶ αἴσθησις*), or to attribute to the former any 'moving' power.[1] On the other hand he recognises gladly the fact that, as a matter of common experience, an 'idea in the mind' may have a powerful 'physical' effect upon the movement of the body. Now an 'idea in the mind' is, as such, independent of any *present* sense surroundings. If then such an 'idea' (*φάντασμα*) can be introduced into consciousness at the critical moment it may outweigh the 'sense object' (*αἰσθητόν*) which, if allowed to act unhampered by anything but rational principles (*καθόλου δόξαι*), has such dire effect upon weak human nature. *φαντάσματα*—mental images—have as much 'moving' power as physical objects. They possess this power because they excite 'Feeling,' with consequent 'Desire,' and they excite 'Feeling' because they are themselves 'decaying relics of sense'.[2] As products of original sense impressions they have that capacity of stimulating movement which sense impressions themselves possess. They are permanent (as contrasted with actual sense impressions) elements retained in the memory, still endowed with the capacities they owe to their origin, and available at any time. They form, it is true, in the sphere of knowledge,[3] that raw material out of which Reason constructs the world of Science, but they are not 'rational' elements in the sense that they owe their

[1] *Cf. De Anima*, iii., 10, § 9. [2] *Cf. Ibid.*, iii., 3, § 13.
[3] *Cf. Ibid.*, iii., 8.

origin to Reason. They are of entirely different and independent origin, for they exist in that animal world which is sentient only, as well as in the rational creature, man. A mental image is thus a definite picture which may be as vivid as that present to the physical eye, and as 'effectively present' as the sense temptation itself.

Modern science has advanced beyond this simple analysis of Aristotle, but without falsifying his explanation, in so far (at least) as it is relevant to Ethics. The elaborate detail of the psychological text-book leaves, after all, the main moral fact untouched, that we are affected, and can be as forcibly influenced, by something not, in the ordinary sense, present, as by the feeling stimulated by an actual object before us. It is to this that the 'struggle' the unfortunate man makes is due, and in this lies his moral responsibility. Strictly speaking, Aristotle, for clearness of exposition's sake, has drawn his outlines a little too sharply. A moral principle—a universal judgment—opposed to a concrete particular is powerless to even begin a contest. But Memory is always working to some extent, and produces, it may be very vaguely, some blurred outline of a 'particular' mental image. If this image be very indistinct it has practically no effect at all—the man yields almost at once, with probably some prick of conscience to poison his enjoyment though it fails to influence his action. If it be very vivid he resists the temptation altogether—in some cases, perhaps, feels an actual repulsion against the suggestion. It is in the space intermediate between these two extremes that the 'struggle,' the 'swaying to and fro,' takes place, varying in duration and severity according to the 'definiteness' of the mental image. There is sober fact, as well as poetic metaphor, in the expression 'Guardian angel' which grateful man so often applies to wife or sister. Common sense tells us, if we wish to help a weaker brother at a crisis, to avoid general principles and Moral Laws, and paint instead, with a few graphic touches, some 'stirring,' 'moving' picture. But the man himself has ever at his side an unfailing friend —Memory—from whom, if he will listen, sufficient help will be always forthcoming. None of us can do without this help if we are to keep on the right path, and the 'incontinent' man is but he who needs it more constantly than the average individual. Nature has given him less strength for the fight, and in so doing has to a certain extent diminished his responsibility, but she has not taken it altogether away. The incontinent man is still a *man*.

V.—DISCUSSIONS.

REPLY TO MR. MUIRHEAD'S CRITICISM.

In the January number of MIND, under "Discussions," Mr. Muirhead criticises my article "Ethics from a purely Practical Standpoint," which appeared in MIND of July last. He begins by broadly hinting that I have failed to understand the Idealist view, and attributes my non-comprehension to want of trouble bestowed upon the subject. Well, I have certainly not spent a great deal of time upon the study of Neo-Kantian and Neo-Hegelian Ethics, but I have given it what seemed to me a fair or sufficient amount of attention. If, in looking for bread, you have invariably found a stone, much prolonging of the search naturally seems to you a game which is scarcely worth the candle.

Before considering the one instance which Mr. Muirhead specifies of my misconception of Idealism, I have to refer to his second objection, or rather grievance. He complains that when I said, with reference to Mr. Spencer's *Ethics:* "In reading it we perceive that we are to encounter no pandering to received views," I was hinting at its superiority in that respect to Idealistic writings. In this assumption Mr Muirhead is wholly mistaken. However, as he refers to "religious teaching of the present time," apropos of received views, I may observe that I have repeatedly noticed, in members of the clerical body, a marked preference for Neo-Kantian and Neo-Hegelian Ethics, as compared with a "chilling utilitarianism". It has seemed to me that the explanation was not far to seek. Being essentially vague and indefinite, the Idealistic Ethics were thoroughly safe: in no way calculated to disturb existing views and existing institutions.

According to Mr. Muirhead, my misrepresentation of the Idealistic view consisted in my speaking as though Idealists made no appeal to consequences as a test of conduct. These, he adds, have been emphasised by Idealists. I have again searched the pages of his *Elements of Ethics*, but have found no emphasising, and only one sustained or more than passing allusion to the results of conduct; while there is nothing said of the necessity of impressing these results as an inducement to right action. Not only so; the consequences to which I referred in connexion with Mr. Muirhead's list of virtues were the effects of conduct as conducive

either to the increase or decrease of human happiness, and certainly not consequences irrespective of any such tendency. He tells us that the Idealist consequences are the results of conduct with regard to their furtherance of "the supreme interest of human life," and that that interest is "the development of a system of activities which depend for their value not on the amount of agreeable consciousness with which they are accompanied, but on their harmony with an ideal of human life". He does not explain whether this ideal of human life is the only definite ideal that I could discover in his *Elements of Ethics* (his definition of self-realisation and his list of virtues, all of which I have criticised, but have had no reply to the criticism), or whether it is a different ideal. In an article, "Philosophy at Oxford," which appeared in the first number of MIND, the late Mark Pattison remarked: "The true Hegelian resents explanation". I must say this mental attitude has seemed to me very apparent throughout Idealistic writings. To reply, however, when you do not know to what you *have* to reply is necessarily somewhat difficult. But in any case, the ideal of life which, it is expressly stated, is not intended to produce "agreeable consciousness"—*i.e.*, neither to promote our own happiness nor the happiness of others—is an ideal to which I am wholly indifferent. Nor can I conceive its being otherwise regarded by any one who is not a Neo-Kantian or Neo-Hegelian. I can only imagine the reverse if the Idealists were looked upon as inspired prophets, pointing the way to happiness in another existence, although disregarding it here below.

I am next found fault with for being seemingly unaware that the words happiness and well-being have been called ambiguous terms. I *am* aware that this has been argued, but I do not acknowledge the force of the objection, inasmuch that there is no substitute for these words (perhaps we may add, and scarcely any abstract term whatsoever) which is not open to the same criticism —*i.e.*, of which it cannot be contended that it conveys more than one invariable meaning. I am told in effect that I ought to adhere always to the term pleasure—a practice which, by the way, is followed by nobody. But how different, for instance, may the word pleasure seem to the scientific hedonist and to the ordinary person! While the words happiness and well-being are, without doubt, sufficiently unambiguous for all practical purposes, they are preferable from the very fact that they are regarded by the generality of mankind with more respect than is accorded to the term pleasure. And, from the hedonic standpoint, the greatest general well-being and the greatest general happiness are strictly synonymous with the greatest general pleasure. Cavilling at these words, on the part of those whose whole system is rife with indefiniteness, is to me a pronounced example of straining at a gnat and swallowing a camel.

Again, Mr. Muirhead appears to question my right to lay claim to a certain amount of originality in considering ethical theories

and methods from the standpoints of accuracy as a guide and probable effectiveness as an influence in promoting desirable conduct. Will he then mention the ethical disquisitions, or disquisition, that systematically, or point by point, examine the different solutions, or would-be solutions, of the ethical problem in relation to these ends?

I am also accused of being heretical in my utilitarianism. In the first place, I have never been at all dismayed by the charge of heresy. To be in no way heretical, may be said to be in no way original. Nevertheless, I do not admit that I differ from the utilitarians referred to—J. S. Mill, Mr. Spencer and Professor Sidgwick—to the extent, or anything like the extent, averred by Mr. Muirhead. He writes: "J. S. Mill, as everybody knows, was led by his personal experience to maintain that from the point of view of individual happiness it was not desirable to cultivate the habit of considering conduct from the hedonistic point of view". Will Mr. Muirhead be good enough to specify the passage or passages from Mill that may be held to bear this interpretation? I may remark that Dr. Bain has criticised this idea in his essay "Common Errors of the Mind" (published in his volume of *Practical Essays*), but he is replying to what had been argued, not by Mill, but by the present Master of Balliol and by Bishop Butler. Then we are told that, in Mill's opinion, "the best practical results were to be obtained by avoiding the use of the pleasure calculus, and pursuing objective interests as though they had a value on their own account". In his "Utilitarianism" Mill speaks of health, power, fame, money, etc., as being "desirable for themselves," but that for the reason that "besides being means they are a *part* of the end". And he goes on to say that any object of desire is desired, "either because the consciousness of it is a pleasure, or because the consciousness of being without it is a pain, or for both reasons united". This is surely incompatible with attaching a value to objects of pursuit irrespective of a calculation of pleasure and pain.

As to Mr. Spencer and the so-called "paradox of Hedonism," he certainly maintains theoretically that we are to be guided by deductions from laws of life and conditions of existence as to what "necessarily tends to produce happiness and unhappiness," and that these "are to be conformed to irrespective of a direct estimation of happiness and misery". Nevertheless, we find throughout his writings, but very especially in his *Ethics*, direct hedonic calculation. And, indeed, in the preface to the second volume of the *Principles of Ethics* he frankly admits that the Doctrine of Evolution had not furnished guidance to the extent he had hoped, and that most of the conclusions have been drawn empirically. Moreover, as I pointed out in my July article, by having asserted that the picturing of the effects of conduct, as productive of pain and pleasure to others, is the only moral inducement to avoid wrong and to do right, Mr. Spencer has given such support to the

pleasure calculus as may be held to debar him from objecting to the use of it.

With regard to what is said of Professor Sidgwick being "never tired of emphasising" "the undesirability of relying on a purely utilitarian morality," let us look to his own words. He writes: "Here our investigation seems after all to leave Empirical Hedonism as the only method ordinarily applicable for the ultimate decision of such problems" (he is referring to "particular modifications of positive morality"), "at least until the Science of Sociology shall have been really constructed". He afterwards adds that the consideration of the question of maintaining or modifying moral rules "resolves itself into a comparison between the total amount of pleasure and pain that may be expected to result respectively from maintaining any given rule as at present established, and from endeavouring to introduce that which is proposed in its stead. That this comparison must generally be of a rough and uncertain kind we have already seen; and it is highly important to bear this in mind; but yet we seem unable to find any substitute for it." Further he explains: "No doubt there are, as we saw, other ends besides Happiness, such as Knowledge, Beauty, etc., commonly recognised as unquestionably desirable, and therefore largely pursued without consideration of ulterior consequences; but when the pursuit of these ends involves an apparent sacrifice of happiness in other ways, the practical question whether, under these circumstances, such pursuit ought to be maintained or abandoned seems always decided by an application, however rough, of the method of pure Empirical Hedonism". And while Professor Sidgwick approves of conjoining a Utilitarian with a Common Sense morality, by admitting that we can only regard the latter as trustworthy when it accords with the utilitarian test, he again constitutes greatest happiness the ultimate court of appeal.

Before turning from Professor Sidgwick's *Ethics*, I have to allude, not to the next argument—it is no argument—but the next remark directed against my mode of defence. Referring to the difficulties of hedonic calculation, Mr. Muirhead says: "I doubt very much whether any one who has realised the force of the considerations put forward by Professor Sidgwick and others will find in the few sentences Mrs. Bain devotes to this subject an adequate reply to them". If by adequate Mr. Muirhead means a full reply, in an early paragraph of my article I explained that it would be impossible for me, on account of the number of points to which I wished to refer and the limits of my paper, to give an exhaustive criticism of what had been said of the difficulties of hedonic calculation or of any other topic. I maintained, however, that Professor Sidgwick and Mr. Spencer had over-estimated these difficulties, and substantiated the contention by criticising certain arguments and examples which they had specified. If Mr. Muirhead had furnished a reply to these remarks, he would then

have made use of argument; but no such answer is forthcoming. And while my criticism was necessarily brief, it went beyond "a few sentences," as Mr. Muirhead puts it; the consideration of difficulties suggested by Professor Sidgwick, exclusive of further remarks with reference to Mr. Spencer's objections, having extended to a page and a half of an article which, in all, amounted only to fifteen pages.

I have now arrived at what may be called the main point of Mr. Muirhead's criticism: his contention that hedonic instruction —he seems to mean of any and all forms, and makes no allusion to the particular lines that I suggested—would have no influence. After this contention, however, he deviates somewhat from the main issue, and I have to follow the course of the deviation.

(1) He observes that the utilitarian theory "sets the pleasure of the individual in competition with general well-being". Here we have again trotted out an old familiar argument which, in the face of the clear explanations given by utilitarians again and again, has seemed to me so unwarranted as scarcely to merit refutation. I can only repeat that the utilitarian theory does *not* set individual pleasure in competition with the general well-being. It approves of individual happiness in so far as it is adding to the sum total of general happiness; and that is, of course, in every case where it does not conflict with that happiness. But it enjoins the suppression of whatever individual aims seem to operate against the social weal. As to Mr. Spencer's conclusion that we must work first for self, then for others, Mr. Muirhead must surely have forgotten that we are asked to pursue this policy because in the long run it proves to be the most altruistic, the most conducive to general happiness. And, practically, as we all know, it *is* pursued by Neo-Kantians and Neo-Hegelians, as well as by other people.

Mr. Muirhead returns to the main issue by asking the following questions: "In the conduct demanded by the higher morality of any time," "are not egoism and altruism almost certain at one point or another to collide? And in these circumstances with what degree of effectiveness can appeal be made to the waverer?" As regards the first question, in the case of the more highly endowed morally, while present individual gratification may not infrequently collide with general well-being, conduct that tends to ultimate or greatest individual happiness in the long run, would rarely come into collision with the altruistic end.[1] In the case of

[1] It is in the interest of social well-being that there should be those who run counter to received opinion in different directions. And persons who voluntarily choose this course may suffer considerably from social intolerance to the end of the chapter; hence the ultimate happiness of exceptional individuals, who may be highly endowed morally, may certainly not accord with social well-being. It is doubtful, however, if, with strong inclinations in the directions referred to, they would have been happier had they chosen a more compromising course. But these are the very few who do not come into consideration in a general question.

the average person, such collision would be more common, still much rarer than the colliding with present gratification. And to point out these facts, as well as to develop sympathy with others, should assuredly form part of the duty of the ethical teacher. How far we may be influenced to put aside present inclination by the thoughts of future happiness depends, of course, upon individual character, and may be of next to no degree, and of all degrees. And much the same may be said of egoism *versus* altruism. To be willing to suppress every personal aim that might seem to detract from the general well-being would mean to have attained to an impossible perfection; but between this and being in *no* way influenced by a desire not to act in a manner opposed to the happiness of others, there are, I need scarcely say, multitudinous degrees. As I formerly remarked, with those who are capable of little or no sympathy, a much fuller realisation of how their conduct, directly and indirectly, will injure and benefit others may be expected to have little or no effect. But with the rest of us, it cannot possibly be said that such realisation is of no avail as an influence opposed to pure selfishness. To maintain this is to deny the operations of sympathy, to argue that the appeal of the philanthropist and social reformer is a mere sham (we may go further and add that there *is* no philanthropist or no genuine social reformer), and that the politician is simply wasting his words when he asks us to co-operate in behalf of classes and sections of society other than our own, and to consider the interests of different nationalities.

(2) Mr. Muirhead's next objection is that "Hedonism sets the lower instincts in comparison with the higher"; and that "it is inevitable in the present stage of human development that to the great mass of mankind the latter should seem distant, problematic and insipid in comparison with the former". In the first place, I object both to the word instinct and to the terms higher and lower. Nor do I know the specific meanings intended to be conveyed by the phrase "higher and lower instincts". But suppose it to mean what is popularly regarded as our higher and lower tendencies and desires, and that our whole nature is being taken into account, or, in other words, that we are looking to its physical and intellectual, as well as to its purely moral side. Universalistic hedonism or utilitarianism does *not* set an undue gratification of "lower" tendencies and desires in competition with the "higher," but disapproves of excess in this, as in every direction. On the other hand, seeing that a due regard to certain so-called lower desires is essential to human happiness, the utilitarian must value it accordingly. If, for instance, a man gratifies his artistic, musical or literary tastes at the expense of proper attention to his food, his devotion to the "higher instincts" deserves not admiration but reprobation: he is wanting either in common sense or in self-control. Again, to adopt a somewhat stale example, if in giving rein to his philanthropic impulses, he neglects his own

business or profession, he may ultimately become a burden upon others; hence had he paid more attention to his egoistic promptings, he would have acted in the long run much more altruistically. From Mr. Muirhead's allusion to the great mass of mankind, one might suppose that the average man was a glutton, a drunkard, a sensualist, heartless and cruel. Fortunately we know that to describe him thus would be gross exaggeration. But allowing that he does unduly gratify the more animal and self-seeking desires and present inclinations in proportion to his fulfilment of the claims of the æsthetic, intellectual, duty-regarding and benevolent parts of his nature, a clear, full and forcible demonstration of the hedonic advantage of giving more heed to the latter would unquestionably have greater effect than vague allusions to an undefined, indefinable, or never clearly defined ideal that has no relation to "agreeable consciousness". Whatever gratification or development of the "higher" tendencies and desires cannot be shown to be hedonically approvable—that is from the standpoint of universalistic hedonism—could not justly be advocated by the hedonist. As to the extent to which a man may be induced to develop his intellectual and what may be called his more æsthetically and altruistically emotional nature, it depends, of course, upon his inherited endowment, his education and his surroundings, and no ethical demonstrator could do more than a certain amount: he cannot pretend to be a worker of miracles.

What I have already said is sufficient answer to the first half of the succeeding paragraph, so I pass on to the second half. Referring to Mill's distinction of quality in pleasures, Mr. Muirhead supposes him to say: "This conduct cannot be shown to produce more pleasure than that, but it is higher". To put the above sentence into Mill's mouth is not, I hold, justified by the gist of his remarks in the *Utilitarianism*. Talking of those who prefer pleasures that "employ their higher faculties," Mill observes: "Whoever supposes that this preference takes place at a sacrifice of happiness—that the superior being in anything like equal circumstances is not happier than the inferior—confounds the very different ideas of happiness and content". In my view, however, if Mill had considered the choice of "higher pleasures" in a less restricted sense, that is to say not merely with regard to the chooser of the pleasures, but how his choice may affect others, their hedonic desirability could have been much more readily demonstrated.

In the last paragraph it is argued that Idealism "proposes a definition of social good which reconciles" "the claims of self and others". As the allusions in these remarks to an ideal of life, on behalf of which the above plea is advanced, give no indication of what it actually means, one could not well say if it does or does not reconcile conflicting claims, or anything else. But this I do know, that so far as we can catch the meaning of Idealists in their references to self-abnegation and the realisation of the social

self, these point not to the advocacy of a fair adjustment of relative claims, but to an undue altruism—an altruism which never is, and could not be, carried into practice. Then the additional explanation that "Idealism takes individual well-being to consist in a certain quality of life," does not tend to further elucidation. And as to Mr. Muirhead's argument that the vagueness of his ideal is excusable on account of the general want of exactitude in Ethics, there is an immeasurable difference between the partial inexactitude of hedonic calculation and the total indefiniteness of an unexplained ideal. Moreover, as I previously argued, the mere pointing to an ideal of life, however definite it might be, without specific indications of how we are to act in the innumerably different circumstances in which we may be placed, could not fail to be futile as a method of ethical instruction.

For a moment I postpone my concluding observations to allude to what is inferentially contended in the final words of the criticism. This is, that instructors of Ethics, from the utilitarian standpoint, would have no "sympathy with the best ideals of human character," and no "insight into the general trend of social progress". Such an assertion is based on a wholly unjustifiable rendering of the utilitarian position. These instructors would require, not to have "some" but much sympathy and insight in the directions referred to. What I said in my article of the necessary comprehensiveness of the utilitarian estimate, or again of the requirements of hedonic instruction, sufficiently showed that I appreciated an outlook for the general trend of social progress. And in pointing out the modes of conduct most conducive to the general well-being, the hedonic lecturer could not fail to form an opinion of the qualities that naturally lead to such conduct: the possession of these qualities, as I explained in somewhat different form, being the utilitarian ideal of character.

What remains to be said is apropos of my "splendid isolation" —for so I may put it—"with Mr. Spencer and the Positivists" in believing in an "ethical priesthood," as Mr. Muirhead prefers to call lecturers on points of conduct. I prefer the terms lecturer, teacher, instructor, to priest; still I do not feel at all confused or ashamed when I am confronted with the phrase ethical priesthood. Nor, certainly, am I ashamed of my companionship—that of Mr. Spencer and the followers of Auguste Comte, who, however we may dissent from his peculiar views on religion, was undeniably a highly original, a profound and an intelligible thinker. But the circle of those who presumably approve of an ethical priesthood may be not a little enlarged—in fact to include the whole of the religious world. Its priesthood is no doubt a religious priesthood; yet none the less is it also an ethical priesthood. Be that as it may, I have once more to remark, that those I consider fitted for the most important and difficult task of ethical instruction would be men whose acquirements testified to a very high standard of ability.

B. BAIN.

VI.—CRITICAL NOTICES.

Analytic Psychology. By G. F. Stout, Fellow of St. John's College, Cambridge. In two volumes. London: Swan Sonnenschein & Co., 1896. Vol. i., pp. xv., 289; vol. ii., pp. v., 314.

It seems superfluous to undertake, for the readers of Mind, any mere report of the opinions of the author of the present volumes. On the other hand, the task of estimating Mr. Stout's contributions to his science is one which cannot be very briefly accomplished, at least by the present reviewer. For these contributions relate to some of the most central of the problems of psychological theory. They are marked by originality of method, even where they appear as defending well-known doctrines. And the present writer finds that they arouse in his mind a somewhat complex union of assent and dissent. In fact, one of the reasons for the long and unwilling delay of this review has been the difficulty that I have felt in clearly distinguishing between the features of Mr. Stout's treatment that call forth my admiring agreement, and the very closely related features that I find myself unable to accept. I do not believe this difficulty wholly subjective. Nor, on the other hand, do I believe Mr. Stout to be at all individually responsible for it. I take it that the present position of psychological theory, the current controversies as to the nature of "psychical causation" and as to the constitution of the "stream of consciousness," are such as demand of us, when we consider them, some very subtle and delicate distinctions. Personally I thank Mr. Stout, whose whole treatment of his subject is so subtle and so delicate, for help in making these needed distinctions clearer in my own mind. But when I turn to the task of commenting upon his highly important discussions in the light of these distinctions, in so far as I at present possess such light, I find myself simply unable to be as brief as I could wish. This is my fault; but at all events I hope that the length of these comments may be taken as a measure, however awkward, of my interest in our author's work.

I.

Mr. Stout distinguishes between "Analytic Psychology," the topic of the present volumes, and "Genetic Psychology," to which

he intends to devote later volumes. Analytic Psychology has two divisions. The first deals with the "general analysis of consciousness". It is concerned (vol. i., p. 36) to "ascertain the number and nature and mutual connexion of those ultimate contents of consciousness and modes of being conscious which do not admit of genetic derivation, but at most only of definition and description. This department of Psychology is purely analytical and largely introspective. The point of view proper to it is statical, not dynamical. It is not concerned with the transition between one state of consciousness and another; its aim is to discover the ultimate and irreducible constituents of consciousness in general." The second division of Analytical Psychology has to investigate "the general laws and conditions according to which change takes place in consciousness". This division is still analytic, since its method is an "analysis of what takes place in the fully developed mind". A Genetic Psychology would undertake the further task of expounding the stages in the development of the individual mind. Of the two divisions thus indicated in our author's work, the first considers, in book i., chapter i., the principle of division of ultimate mental functions. In chapter ii., the "Analysis of Presentations," in chapters iii. and iv., the forms of "Apprehension," in chapter v., "Belief," in chapter vi., "Feeling and Conation," are defined and illustrated. The second part depends, in a measure, upon the theory of the nature of mental activity expounded in the opening chapter of book ii. But the most noteworthy and original developments of our author's theories concerning the dynamics of the mental process occur in the later chapters of book ii., which fill the second volume.

Of the line of discussion thus sketched one is first disposed to remark, not indeed by way of objection, that the first of these sections certainly does not contain as much detailed study of the mere contents of consciousness, apart from their dynamical relations, as the opening statement might lead one to anticipate, especially in view of the usual customs of psychologists. We find no elaborate accounts of the distinctions of the various classes of sensations, no extended dialectics regarding the relations of "intensity" to "quality," and the like. On the contrary, our author confines himself to a general discussion rather of the fundamental "modes" of being conscious, in the sense in which Brentano distinguished such modes, than of the details of the contents of consciousness. But brevity in this region of psychology is not unwelcome, and Mr. Stout has done well to avoid repeating familiar matter. On the other hand, it may at once be said that the second or "dynamical" section of Mr. Stout's work is by no means wholly devoted to the laws of mental sequence, but continues the work of the first part by adding many valuable analyses of the contents and modes of consciousness. And, as a fact, it is in this aspect of the second part of the treatise that the present reviewer finds what he most prizes in Mr. Stout's work. Our author's conception of psychical

causation, and of the dynamics of consciousness, arouses the present writer's frequent dissent. On the other hand, Mr. Stout's analysis of the "noetic" states of consciousness, viewed just *as* an analysis of the structure and the significance of momentary and of serial conscious facts and processes, appears, as far as it goes, almost altogether admirable, except indeed in the analysis of Belief, with which I disagree. Moreover, the aspects of the knowing process upon which Mr. Stout lays stress have been far too much neglected. This makes their just recognition the more welcome. The significance of the more formal aspects of the conscious process, the importance, for knowledge, of the consciousness of mental wholes, or unities, the thesis that the consciousness of any such a mental whole does not depend upon a detailed consciousness of the parts, the allied thesis that the noetic process cannot be reduced to a mere series of mental images, the elaborate analysis of the processes whereby we become aware of the "meaning" of a train of thought—all these are features of great importance in the chapters before us. Especially must the student of logic thank Mr. Stout for the light he has thrown upon the descriptive psychology of the thinking process. And in so far as Mr. Stout, in these analyses, opposes the traditional "association" doctrines of the constitution of the conscious stream, the present writer rejoices in the confusion of the associationists.

But description is not causal explanation. A study of mental structure is not a dynamical theory. Psychical causation is not identical with psychical significance. And here, if I must speak for myself, begins my chief dissent from Mr. Stout's procedure. In the matter of the "dynamics" of consciousness, Mr. Stout takes sides with the partisans of "mental activity," while giving, to be sure, his own definitions of what constitutes mental activity and of what is the evidence for its existence. Here he necessarily comes upon especially controversial ground—ground where the psychologist has to take account of general logical and metaphysical theses as to the nature of causation, before he can make sure of his own right to assert the existence of causal connexions. Believing, as I myself do, that no introspective study of the contents, or of the sequences, or of the significance of conscious states, can determine the true nature of any causal link which binds them together, holding, as I do, that the conception of causation is one that logically forbids the verification of a causal connexion by any *one* observer of any series of facts, inner or outer, I am unable at present to accept the thesis that the psychologist can find in "mental activity," or in any aspect of the inner life, however significant, the warrant for a theory of the dynamics of consciousness. It is not then that I prize "association" more, but that I trust introspection in general less as to all dynamical questions of psychology. It is this fact which leads me to dissent from Mr. Stout's theories of psychical causation, while,

in the main, accepting nearly all his analyses of the purely noetic states of consciousness.

Dissent such as this concerns matters whose full study would lead us far into the realms of the general logic and metaphysics of causation. I may premise, however, in general, that, to my mind, whoever says "Experience proves that A causes B" is logically committed to certain assertions both about the nature of the A and the B of which the relation in question is affirmed, and about the nature of the experience to which the assertor of the proposition appeals. And these assertions are in substance as follows: First, A and B have to be conceived as facts of a universally verifiable, of a public, of a socially tested character and type. Physical facts are *conceived as* of this character, namely, as *common* objects for *many* possible observers. Secondly, the experience to which one appeals, as proving the causal relation, is not the experience of any one observer as such, but a certain *conceived common* experience of scientific observers in general. In consequence of this logical condition of the very conception of a causal connexion, I conceive that no observer can say: "I have introspectively discovered a causal connexion existent within my consciousness".

This assertion as to the logical significance of the conception of causation will doubtless call forth objection. I have no time to defend it at length here. I can only say, in brief, that I hold it because it seems to me that the whole history of the explanation of nature by men warrants this definition. Explanation of nature has always been a social affair. Men have taught one another to think about nature. The categories of human thought about nature are consequently ethnological products. In particular, the spirit of natural science grew out of two essentially social sources: the first was the commercial spirit, which taught men exactness in the definition of facts, and especially in the *quantitative* definition of facts, since commerce, as a social process, forced men to measure and weigh goods, and to define contracts; the second was the spirit of industrial art, whose traditions, in order to be passed on from generation to generation, demanded exactness in the definition of processes. Now both commerce and art deal with socially common objects, in so far as they are common. And both the industrial and the commercial spirit require the agreement of various men about facts *conceived as* common to them all, and, therefore, as relatively independent of any one of them. The things bought and sold, the contracts executed, the processes of an art taught by the master to the apprentice, are all viewed as exact, as definable and as subject to law, precisely in so far as they are also matters of tradition, of agreement, of social community. Thus first developed the conception of fact subject to natural law. The exactness of the law was the obverse aspect of its socially common character. The conception still bears the marks of its origin. Science inherited and developed this conception. As a fact, no student of physical science conceives natural fact as properly the

exclusive object of any one observer's experience. He conceives such fact *as* fact that *can* be observed in common by many. And the laws of such facts are conceived as laws precisely in so far as they are conceived as objects of a possible social agreement, valid for all men.

But if we thus define natural law in general, then we must carry over this concept into psychology. What an observer can, as psychologist, hope to say about the natural laws of mind is, substantially, that our common experience of human nature, as observed within and as *also* expressed without, in the words, gestures, deeds, conduct and rational life of men, proves, upon the basis of the general postulates of science, that certain causal relations exist. But the objects of such a common and social experience of human nature are never mental states alone, observed by introspection. For the introspective observer is, as such, watching what, by hypothesis, nobody else can ever observe, namely, his own inner states. The objects of our general social knowledge of the ways of human nature are always conceived as psycho-physical processes, that is as mental phenomena *expressed in* physically observable words, deeds, gestures, blushes, laughter, tears, and other such processes. Only of these *psycho-physical wholes* can causal or "dynamical" relations be psychologically predicated. Hence, as I should maintain, introspection, as such, has no right to discover any "dynamical" connexions —not because introspection is vain, nor yet because the "associationists" are right, but because the causal concept forbids the purely introspective, that is the essentially immediate and lonely discovery of any causal relations. For causation "marries universals," and universals of a peculiar type, namely, universals conceived as the *common* objects of the experience of many.

It is this general logical scruple that determines my own inability to follow Mr. Stout's dynamical explanations of conscious processes, or to believe in "mental activity" as anything essentially causal. On the other hand, I can follow the discussions of the so-called "active" processes with a full sense that the author is everywhere analysing the inner and genuine significance of conscious events in a profoundly important way.

So much for purely general comments. They may serve to determine the plan of the following observations, which will be devoted first to the dynamic, and secondly to the more strictly analytic aspect of our author's psychology. That we thus begin with the aspect which will provoke our principal dissent, may serve to enable us to do all the more justice to the other aspect, when we express later our agreement.

II.

If we view psychology as a science that deals with the "laws of mind," precisely as a physical science deals with the laws of

nature, we find Mr. Stout, in his opening chapter in volume i., discussing, with agreeable brevity, the general scope and methods of our science. The psychologist (p. 4) has a right to take account of any uniformities that can be observed or inferred in the course of mental events themselves; and is not forced to proceed to physiological or other extra-conscious explanations, except in so far as (p. 20) the "existence and inter-connexion of conscious states is most distinctly and intelligibly formulated by the introduction of physiological links and co-operating conditions". The psychologist may, however, also legitimately make use of the hypothesis of the so-called "psychical dispositions," either with or without a reference to their physiological aspect. In this way it becomes clear that the psychologist, as such, is primarily interested in detecting, if possible, uniformities *within* the field of consciousness. Where these uniformities fail him, he proceeds to fill up the gaps by appealing to "psychical dispositions" whose nature is so far more or less hypothetical, and then, on occasion, to the physiological bases of these dispositions. In order to discover his facts, the psychologist appeals to "introspection," to "retrospection," and to communication with other minds. Of these three methods, Mr. Stout considers (p. 14) that the third is a "derivative method which presupposes the other two, although they do not presuppose it". He continues by observing that "there is no such a thing as direct observation of other minds; all that is immediately perceptible consists of sensible signs and tokens of inward events; and these sensible signs and tokens are interpretable only through knowledge attained by introspection or retrospection". Physiological knowledge in its present states of development is (p. 26 *sqq.*) of secondary importance for the psychologist; and (p. 34) "it is clear that psychology must do the main body of its own work on its own lines"; and (p. 35) "it is idle to require psychology to wait for the progress of physiology".

When one has such a conception as this of the means by which the psychologist is to discover the laws of mental processes, we naturally inquire what types of laws one believes oneself to have discovered by those methods which, beginning with introspection and retrospection, regard all other psychological methods as secondary to these. We shall probably not be mistaken in asserting that Mr. Stout finds these uniformities especially exemplified, in so far as they are accessible to direct introspection, in the early chapters of his second book, especially in the chapter on "The Concept of Mental Activity," and in the chapter on "The Process of Attention". Numerous, and decidedly valuable, generalisations as to the laws of mental life appear in volume ii., and fill a considerable portion of our author's text. But one is especially concerned to observe that precisely where these laws are most definitely stated, they, for the most part, cannot be stated as the results of *mere* introspection. When, for instance, our attention

is called to the laws of apperception, as illustrated by the processes of language (and this is what is frequently done in the second volume of our author's work), the author cannot say that the laws as then stated are the results of anybody's introspection. For language, as such, is an externally observable and physical record of how minds in general work. Its processes (for instance the processes indicated by its grammatical form) may be interpreted by the individual by the aid of his own introspection. But the interest of these processes, as indicating psychological laws, depends upon the assumption that the processes of language do record, not how my mind in particular just now works, but how the minds of people in general have worked. If the law that one announces thus depends for its discovery upon an interpretation of certain socially significant doings of other people, the psychologist is in so far using, not his supposed primary method of introspection, but the methods above declared to be secondary, namely, those methods of social interpretation of the expressions of other people's minds to which we are all accustomed. In reading our author's later chapters, we are, therefore, constantly disposed to note that the laws which he announces as laws of mental life, whether true or not, are not laws which he has detected merely by introspection, nor laws which any one of us can verify solely by his introspection. One is thus led to inquire whether our author, or any other psychologist, is ever able to say in *purely* introspective terms: "I have observed for myself, individually, without reference to other minds, that there is occurring in me a process subject to the law that something, a state or series of states A, is always, or even very generally, followed by a state or series of states B". Very frequently, as one can see, the practical logic of the psychologist, whether he be our author or anybody else, really runs thus: "Various expressions of various people, as, for instance, the expressions that are crystallised in our language, prove that, on the whole, states of the kind A tend to be followed by the states of the kind B in a way such as to indicate a more or less exact and uniform law of sequence, although *if* any one of us were left to his own momentary introspection, and to his memory merely, he could not be sure of enough cases of such a sequence to be warranted, by the tests of inductive logic, in affirming any general law, even for himself, or for his own mind". Every man knows, of course, introspectively, a great deal about the mere routine of his own customary trains of consciousness. But such routine is so far like the arrangement of the inside of one's own house. When one knows one's own house, one can scarcely say that one has thereby learned "laws of physics". Just so when one knows, in a common-sense way, the mere routine of one's own private trains of conscious states, one has not yet learned "laws of mind". And the question is whether, by mere looking within, the psychologist ever learns true laws, even of his own mind. For introspection is subject to the peculiar defect that its facts are momentary. "Re-

trospection" is also subject to the defect that it can bring to mind but a few cases at a time. And both of them seem to exclude the application of rigid inductive methods. We may then, from the start, be sceptical as to whether the psychologist can *ever* discover, in terms of mere introspection, any general laws whatever. The confidence that our author, or that any other psychologist, has in his power to state any of the results of his introspection, as general laws, verifiable even for his own mind, actually depends upon his common-sense assurance that what he says is so far in agreement with the records and reports and expressions, or with the behaviour of other people, that, even if his supposed law has never been formally stated before, it is such as ought to be viewed as a fair account of the workings of our common human nature. Were he left to his own observation and memory, he could recall too few facts to warrant a law.

Now this fact, namely, that introspection, viewed apart from the interpretation of the reports and the conduct of other people, can very seldom, if ever, be relied upon to present to the individual psychologist any uniformities worthy to be called laws of psychology, or even laws of his own mind, is of such vast significance for the whole logic of "dynamic" psychology, and consequently for the very meaning of the term law as used in psychology, and for the whole interpretation of the nature of mental causation, that we may fairly bear in mind, as we consider the laws of mental life which our author believes himself to have discovered, the question whether he has anywhere overcome the natural limitations of introspection, or has discovered, by mere introspection, any genuine psychical law whatever. As a fact, I myself do not believe that he has done so, or that any psychologist can do so. My own belief is that mere introspection can discover no psychical law, not even a law of the observer's own mind. It can only analyse current conscious states. And, for that very reason, mere introspection can throw no light upon the true nature of psychical causation. However, this is plainly not our author's view, and, as pointed out above, the chapters where there is most prospect of finding him successful in this respect, that is of finding him able to discover by direct introspection true psychical laws, or true psychical causation, are the chapters on mental activity and attention; and to these chapters we may, therefore, briefly appeal.

On page 144 of volume i. we begin a general discussion of the meaning of the term Activity. The popular use of "Activity" often makes it a mere synonym of Causality in general. But activity means for our author, as for Mr. Bradley, something more definite, namely (p. 145), "self-caused change," or "self-determining process". The thesis that in consciousness there is activity discoverable is (p. 147) coincident with the doctrine that conscious life "has a current of its own," is "always in some degree self-sustaining," and "tends by its intrinsic nature in a certain direction or towards a certain end". In consequence, the active

processes of consciousness are contrasted with the passive processes in so far as, in the passive processes, such as mere perception, there is no reason within consciousness for the transition from the perception of one object to that of another (p. 148). "Mental activity exists when and so far as process in consciousness is the direct outcome of previous process in consciousness." Furthermore (p. 149) "in mental striving there is a tendency towards a state which remains relatively unrealised, so long as the conation continues". Processes of this sort, in so far as they have (p. 152) their "starting point and terminal point in the current of consciousness," are mental activity. To be sure (p. 155), mental activity is never pure. "All mental self-determination is indirect." For the mental process determines changes which occur outside of consciousness, say in the brain, and these changes in their turn react upon the conscious process. But (p. 156) "the impossibility of isolating immanent or direct self-determination constitutes no reason for regarding it as a fiction". For no change within consciousness is entirely determined from without. Furthermore, the conscious activity thus defined is "selective," and "adaptive". That is, what occurs in consequence of mental activity is such as to meet a mental or conscious end. Meanwhile, if mental activity is never pure, and is purely indirect, one can still say (p. 160) "mental activity exists in being felt. It is an immediate experience. The stream of consciousness feels its own current." Or (p. 166) "the process of consciousness is as such a *felt* process". And within what is felt, in the process, is included "the antithesis between the process in so far as it contributes to its own self-sustainment and development, and in so far as it is determined by conditions extraneous to itself". In addition "there is an immediate experience," in the conscious process "of its effectiveness or ineffectiveness, its freedom or constraint". And finally (p. 168) "to be mentally active is identical with being mentally alive or awake. According to this view, therefore, there can be no such thing as purely passive consciousness."

It will be seen at once that this very frank statement of the thesis that consciousness is active, contains one very curious difficulty. The activity whose existence is asserted, is admitted to be always partly indirect. Consciousness never does directly and wholly determine the sequence of its own states. What consciousness does is to determine something outside of consciousness, which something, in turn, determines a process or state within consciousness. Yet what thus *occurs* indirectly is somehow *felt* directly. That consciousness is active is immediately known. Yet the activity of consciousness is itself never quite immediate. If the rest of the psycho-physical organism failed, for extra-conscious reasons, to co-operate with consciousness, the activity would not act; nothing would be accomplished. Yet consciousness feels its own efficacy, and feels this immediately. Moreover this difficulty is by no means the only one in the theory

advanced. One who has introspectively discovered the conscious activity knows thus, directly or indirectly, that something, namely, A, with or without the co-operation of an extra-conscious factor, is the cause which produces something else, B. Now one who knows such a truth as this must surely be knowing something universal, a law or principle, if indeed he knows anything worthy to be called causal connexion. He must know that whenever A occurs under conditions definably similar to those which are here present, be these conditions themselves wholly in or partly outside of consciousness, B must follow. Unless one knows such a general principle, one has discovered no sort of causation. But at once, we may ask, how can introspection, which shows us merely that here and now, or retrospection, which shows us merely that on a number of remembered occasions, A, or something similar to A, is or has been succeeded by B, or by something resembling B, how can either of these assure us of any such general law? But if, going further, the psychologist's induction, following ordinary empirical methods, has taken account of cases sufficiently numerous to establish such a general principle, in what possible sense could such an induction, indirect, and considerately comparative of many different cases as it would be—in what possible sense, I repeat, could it any longer be called an expression of immediate feeling? Immediate consciousness can tell only that B here follows A. The immediate facts A and B, and their sequence, however momentous, are, for introspection, merely facts of the moment. They have, as facts here present to introspection, nothing but the connexion here felt. Any inductive basis for the principle that A tends, in a definable way, to be in general followed by B, must be sought outside of this moment, and cannot be here felt, as any immediate fact. But, perhaps, by the immediately felt efficacy of A, as the producer or active begetter of B, one means nothing that can be expressed, as yet, in terms of a general principle or law. One means only that A is here efficacious in producing B, whether A would ever again be thus efficacious or not. However, if this is all that the immediately felt activity, the immediately present efficaciousness of A means, *then* it seems entirely unfair to speak of such connexions as in the least parallel to those which physical science regards as causal connexions. The causal connexions of physical science, whatever you may say of their warrant, whatever theory, Humean or Kantian, you may have of our knowledge of them, are all of them conceived as universal connexions, or as connexions linking classes of facts. In consequence such connexions, by definition, are excluded from being objects of anybody's immediate experience. They cannot be felt, they must be conceived. Experience can verify them indirectly, but never present them at one time. They are objects, not of immediate experience, but of indirect knowledge. And this they are, not because the physical objects are, as such, things in themselves, but because the connexions in question are, as

such, universal, are facts whose *esse* must be, not their *percipi*, from the point of view of any one observer or moment, but their universal validity for all experience, for all observers, for all times. We are not here concerned with the question how such universally valid connexions can be asserted to be true. We are only concerned with their logical character as causal connexions. This character distinguishes them, by the breadth of the whole logical heaven, from the contents of any immediate experience as such. And consequently, if the connexions introspectively observed are connexions immediately felt, they are simply not causal connexions, unless causation is no longer to mean what it does in the world where universal types of sequence are defined.

It is plain, however, that our author, in common with most partisans of mental activity, believes that the connexions immediately felt in the conscious stream are capable of being stated in terms of universally verifiable principles. In other words, he doubtless believes, as appears from his whole discussion, that when you go beyond the immediately felt connexions, and compare your own experiences with those of other people, you can indirectly make out that such connexions do stand for a sort of efficaciousness which we can express in universal terms, and verify by ordinary inductive methods. Thus, I attend, and am said immediately to feel my attention to be efficacious in guiding the stream of consciousness. So far I have immediate fact, and not yet general principle. But I compare notes with others, and am supposed to discover reports that agree with mine as to the nature of this immediate feeling about attention. Moreover, in observing people, I note all sorts of indirect expressions of this "efficacy of attention". I thus verify my own impressions, and become assured that mental activity is something of a universally valid meaning. But now, as one must still insist, What is it that I discover when I thus compare notes, and observe the general indications amongst men regarding the causal relations of attention? And one must answer, In case of such comparison I discover, upon the basis of ordinary inductive methods, certain generally verifiable uniformities, certain objective regularities of scientific experience. But what are these uniformities? Are they uniformities in the sequence of purely internal or mental states? Answer, No. Every mental state is, by hypothesis, observable, introspectively, by one observer only. But inductive science is, logically speaking, always concerned with what is *conceived as* the universally observable. And now what is, on the basis of the presuppositions of ordinary inductive logic, universally observable about the mental sequences? I answer, with the use of the formula that has lately been employed, in a slightly different way, by Avenarius: What is universally observable is that, at the time when men, viewed as physical or psycho-physical organisms, either "behave as if they attended," or "report" that they are

attending, that is, express, in what Avenarius calls their *Aussagen*, that they "do attend," *then* there uniformly follow certain other observable phenomena, which may be described as reports or expressions of "clearer and clearer comprehension," or of "improving acquaintance with objects," or of "better adjustment to the environment," according as the attention has appeared to be long continued or minute. Now one who asserts this inductively verifiable law, asserts the efficaciousness of attention in the only sense in which such efficaciousness can become a principle in psychological science. What ultimate epistemological warrant anybody can have for such inductions belongs elsewhere for consideration. It is enough here that the assertions of all inductive psychologists, including our author, in so far as they are assertions of general principles about attention, or about any other "active process," are just such inductive assertions about human nature in general, about the behaviour of mankind, viewed as a universally legible psycho-physical expression of mental states. But all such assertions are indeed "indirect". Nobody's immediate introspection can give them any direct logical warrant. They stand or fall with the validity of the social consciousness, and of the general process of induction. The causal connexion that they assert is, as it stands, not a connexion observable within the field of introspection, but a connexion *between one psycho-physical total and another.* Viewing human nature in such wise that certain expressions, reports, gestures, words, or other manifestations, are regarded as inseparable from certain more or less definitely legible mental states, whose presence is assumed to be well known, and whose interpretation is assumed to be upon general social grounds valid for all psychologists, the psychologist inductively makes out that the psycho-physical complex A (an enormously complicated total of physical activities, of nervous conditions of these activities, and of accompanying psychical states) is connected, according to definable principles, with another psycho-physical complex, B. And thus, and thus alone, can an empirical psychologist define in universal terms, causal connexions. Now connexions thus defined cannot be identical in contents with connexions immediately observable by the introspective student of the conscious stream. It is useless to try to discover the causal laws in immediate experience, when the laws, just as soon as they become laws, refer to what is not and cannot be immediate, namely to the conceived objects of a universally valid scientific experience of complex psycho-physical uniformities. On the other hand, in so far as such uniformities are discovered, they cannot verify what immediate experience discovers, because they refer to different objects from those present in immediate experience. In brief, then, in so far as mental activity is an object of direct introspection, it has nothing to do with the causal laws of mind. And, on the other hand, in so far as causal laws are discovered by the psychologist as universal principles, they cannot be used as proving that one

has observed rightly the nature of the mental activity said to be present in immediate experience.

I regret the somewhat recondite nature of the foregoing reference to the general logic of the causal conception. While I have developed this conception more or less independently in certain previous papers of my own on the general problems of knowledge, the conception of psychical causation here concerned has close relations to some of the analyses of Avenarius; and I may refer to the latter's observations on the nature of psychological experience as, at least, helping to make my own notions, even in this rough statement, somewhat intelligible, despite the differences between the two theories of causation. And the prominence given by Mr. Stout to his own conception of mental activity, and to its logic, must be my warrant for referring at such length to first principles as I criticise his views. For Mr. Stout makes the experience of mental activity, and of its various hindrances, the source of the most essential features of feeling, of belief, of conation, and, in a large measure, of knowledge. If my criticism is well founded all the essentially "dynamical" aspects of his theory must be seriously modified, as a brief consideration will still further show.

For if I am right, psychological laws of a causal nature are, like the causal laws of physics, all of them the objects of a certain highly indirect and "conceptual" type of experience, the experience of "the psychologists" or of the "students of human nature," viewed as the observers to whom are present the essentially "common" facts of their world of scientific knowledge. And these common facts which the psychologists are conceived as knowing, are not the mere sequences of mental states in any one observer's immediate field of introspective knowledge, but the uniformities of the psycho-physical realm called, in general, the "realm of human nature". My proof, so far as the present case goes, may lie in the fact that Mr. Stout, like any other psychologist, devotes himself, almost altogether, in concrete cases of psychological induction, to reporting and to commenting upon just such common facts; and he uses introspection, for the most part, only to illustrate here and there what is viewed by him as commonly observable. Whenever he announces any definite laws, apart from the general existence of "mental activity" itself, he appeals to language, to pathology, to childhood, to mankind in general, as furnishing the proofs for his inductions; and he feels sure of these latter because he gets such social verification. But now what I further assert is that any thus socially verified psychological law is, *ipso facto*, never a law about merely mental facts, but always a law about psycho-physical processes. To state it as a purely mental law is to state it in a false abstraction. And this is true, not merely because the mental processes contain "gaps," or are inwardly "incomplete," but still more because social verification, as such, faces series of psycho-physical facts. State com-

pletely your socially verified psychological uniformities, and they run not thus: "All men, after feeling A, feel B"; but rather thus: "Whenever men physically express or report that they feel A, thereafter they report, or otherwise physically express, that they feel B". For example, if we wish to state the whole of a familiar psychological induction, we ought not to say merely that: "Violent emotions, in normal minds, lead to feelings of weariness"; but rather that, as our whole "common experience" of normal mankind shows: "Violent expressions of emotion, in case of people who are otherwise normal, are ere long followed by symptoms of exhaustion, amongst which are, normally, symptoms that the sufferer feels exhausted". To state the case thus gives us the causal linkage as known to the observers of human nature. And exceptions to such empirical laws, as in case of abnormal nervous conditions, are thus placed in the right light for later study and explanation. If this, however, be the case, our entire conception of psychical causation must be altered accordingly. The physiological facts and the psychical dispositions do not merely serve to fill out gaps in the series of inner or mental causes and effects, but they are an essential part of every causal series known to the psychologist. We cannot, for instance, maintain, as our author does, that, since we are primarily conscious of the efficaciousness of our will, we are able to arrive at a belief in physical reality, or in other sorts of reality, in so far as we become aware of limitations to this efficaciousness of consciousness, and so of conditions imposed upon our will and alien to it. For our will can be viewed as causally efficacious only after we have already formed the conception of physical and of psycho-physical causes. With the alteration of our author's theory, thus rendered necessary, would change very much indeed of his doctrine as to the dynamics of consciousness.

Meanwhile, however, as our author may well insist, the facts of consciousness, expounded in his chapter on Mental Activity, remain. There *is* attention in consciousness; there *is*, what all men agree to call, striving for ends; there is, unquestionably, the mode of consciousness which he denominates conation. What account shall one give of this mode unless one regards it, with our author, as an instance of the efficaciousness of the conscious process, which thus shows itself as at least partly "self-sustaining"? Must one fall back upon the position of the associationists? Must one define all this as due to a mere "passive" sequence of states?

I reply by saying that our author comes very often so near to what seems to me the truth in this matter that I wonder to find him caring for that mere bauble, that mere abstraction of indirect experience, called "efficaciousness," when the rich inner life which he is analysing furnishes to him the characters that he so elaborately defines, that, as against the associationist, he so admirably characterises, and that constitute, after all, what really makes

conscious life worth living to all of us. Efficacy we do indeed all of us desire in the abstracter scientific sense of causal efficacy; but not one of us, as natural man amongst men, cares in the least, apart from artificial theological concerns, or from psychological and philosophical theories, whether his causal efficaciousness, in his empirical world, is ever purely psychical, or is always psycho-physical. It is the man, the whole man, body and consciousness together, whose causal efficacy in the sight of gods and men, we desire, in so far as we ever think of that aspect of our nature that science more abstractly defines as our causal aspect. On the other hand, quite within our own consciousness, we do, indeed, in so far, "immediately" follow with intense interest, our hopes, strivings, ideals, in general our conation, or what our author calls our activity. This "activity," empirically speaking, does normally pass through stages, very much such as our author so well defines—stages of vagueness, of growing differentiation, of a more definite apperception of our systems of means and ends, and, finally, of the dying away of each particular striving in the attainment of its ends. All this any one of normal skill can observe introspectively, for this is what all men are found actually expressing in speech and in deed, as the sense of their inner life. But now, *What* is this activity immediately observed to be when viewed through introspection? Causally effective? If I am right in my definition of causation, that is logically impossible, since introspection cannot observe the genuinely causal conditions and consequences of inner states and processes. What then? I answer that what is introspectively observed is precisely this, that the inner life is normally full of significance, of meaning, of success, and of defeat (as contents of experience, not as cases of causation), of hoping and of the sense of striving, of longing, of desire,—yes, and of insight too, of judgment, of conception, of rationality—in short of whatever gives consciousness, taken in brief or in long stretches, its inner value, its total presence as something that expresses, embodies and possesses worth and good sense.

Now I repeat that consciousness has this directly or immediately teleological quality, this essential meaning, is a fact whose importance seems to me to be rather obscured than illumined by confusing concrete meaning with abstract efficacy, good sense with causal power, rationality with capacity to accomplish the causal production of deeds, and sustained significance with "self-sustaining process". Yet the whole tradition of the partisans of psychological activity seems to me to involve just such a confusion. What the psychologist has a perfect right to say is: That the causal processes which he finds in his essentially psycho-physical world, a world of minds whose inner states are outwardly expressed in physical states and movements, that these causal processes, I say, are *such as* to render possible, and (so far as experience indicates the fact) to sustain, precisely those psycho-physical conditions whose inner aspects are significant conscious

processes. This the psychologist must say, because such is the fact, in so far as the psycho-physical processes are normal. But to say this is not to say that introspection discovers any causal laws, or that the significance of consciousness is, as such, the causal efficacy of consciousness, or that you can explain how consciousness comes into being, or how it sustains itself in being, by analysing the profoundly interesting inner fact that while consciousness normally goes on, it always means something.

What interests me, therefore, I confess, about the facts grouped together by our author as facts illustrating mental activity, is not that they prove any causal efficacy, but that they introduce us to the descriptive analysis of what goes on in the mind when one means something, or when a meaning grows clearer, or when a reasoning process occurs. It is precisely this analysis which has heretofore been so neglected by psychologists, and which our author expounds in that portion of his discussion to which I must next turn. Here our disagreement, as stated above, will give place to an assent which is very frequently almost entire.

III.

Viewed, not dynamically, but in the light of an analysis of its contents and modes, consciousness is subject to the general principle that its facts normally mean something, and that, since the meaning of past experience constantly tends to be taken up into the present meanings, and to be recombined in new fashions, consciousness normally tends towards what one may term the "evolution of meanings". This teleological character of normal consciousness is comparable to that teleological character of the vital processes which is so fundamental a datum in biology. To this our author, like Avenarius, makes frequent reference. Precisely as the biologist, however, makes little of the attempt to explain such teleology by means of "vital forces," conceived as self-sustaining causes, precisely so I myself should maintain that the parallel conception of "mental activity," or of the "self-sustaining" causality of the conscious process, is of little service in comprehending the causal relations of mind—relations which, logically speaking, must have psycho-physical totals for their least possible units. But, on the other hand, the psychologist is as interested as the biologist in considering, in analysing, and in interpreting the teleological character of his facts and processes. Since, in the psychologist's world, this teleological character belongs to the conscious aspect of the process, the psycho-physical nature of the outward expressions of the inner process does not now stand in the way of an effort to interpret what happens when inner meanings develop. To interpret what happens, to follow it through its successive stages, to study the laws of the evolution of meanings, and the laws that govern the growth of the significant series of states that, in their wholeness, constitute conation, just

in so far as these series embody the fulfilment of aims, and the success of intentions—all this, to my mind, is something which is wholly different from any causal explanation of mental processes. And just such a descriptive psychology of the processes whereby meanings and purposes get conscious evolution and inner expression, constitutes that aspect of our author's work with which I find myself in harmony.

His opponents are here the "associationists". To my mind the latter are just as wrong in their causal explanations as is the doctrine of mental activity when this doctrine appears as a causal theory. For the associationists, in the stricter sense, more or less completely ignore the psycho-physical aspect. But laying aside causation altogether, the associationists are wrong in their analysis of the teleological aspect of consciousness, and are wrong in fashions that our author very skilfully exposes. They are wrong in so far as they try to reduce the mental wholes which constitute meanings to mere sums or series of elements. They are wrong in so far as they try to reduce all mental values to variations in the quality and intensity of mental images. Hence they have no theory adequate to describe what our author calls "apperceptive systems"; and they are unable to define the nature of our consciousness of relationships. Our author meets them with great success by means of his theory of "noetic synthesis," and of the related conscious processes.

For this theory he prepares the way in chapters iii. and iv. of book i., where he deals with "The Apprehension of Form," and with "Implicit," and "Schematic," "Apprehension". The "Form" of a mental whole or series of states is something that, as in the case of a melody, or any other typical whole of conscious states, is relatively independent of the particular constituents of the whole. The whole can be apprehended with very various degrees of clearness as to the plan of its constitution, and as to the precise relations which it involves. The whole cannot be analysed into any sum of elements or of relations. In consequence, the nature of any whole can be, to any degree, "implicitly" apprehended. A typical example (p. 79 *sqq.*) is that of the meaning of a word, which can be apprehended apart from imagery, and (p. 86) "without discernment of the multiplicity it really comprehends". Thus it is in such cases, as if (p. 95) "the multiplicity were somehow wrapped up in the distinctionless unity and were struggling to unfold itself". If we dwell upon such a whole, it tends to get expressed in a more explicit apprehension of its parts, and (p. 96) in "so far as the implicit idea or perception of a whole determines the successive emergence of its parts in consciousness, we may apply to it the term of 'schematic apprehension'".

Our author is not the first to take note of this aspect of consciousness; but his development and application of his principles is peculiarly minute and consistent. The principal cases are considered in the second volume. "Noetic synthesis," in general,

is defined as the union of presentational elements in so far as they relate to a single object, or in so far as they are "specifying constituents of the same thought" (vol. ii., p. 1). Such synthesis appears already in simple, still more in complex, perception, where no mere union of presented and revived partial experiences constitutes the total perception. "The percept of the whole is not the sum of the percepts of the parts" (p. 20). When we perceive what we get is a whole object "schematically apprehended" through various, and often through successive, presentations of some of its parts. The inexperienced parts of the whole we do not necessarily image. We know in advance *how to hunt for them.* We thus schematically anticipate them. Our sense of what the whole object is, is like our sense of the meaning of a word. The parts presented *mean* the whole, over and above any mere association of part with part. A good example of this sense of the whole is given by our unvisualised apprehension of the insides of objects (p. 24). In general, in perception, one has a "premonition of the whole object" before proceeding to observe or to image the parts. One knows that: "I can if I choose" find or image this or that part not yet presented. This is noetic synthesis (p. 25). It is involved on a higher level in "ideal revival" (p. 31). Combined with retentiveness, noetic synthesis gives us "apperception" (p. 40). For "when we consider a noetic synthesis not merely as involved in this or that conscious process, but as a mode of mental grouping which persists as a disposition when it has ceased to operate in actual consciousness, we have the idea of an apperceptive system". In other words, when we have a revivable system of ideas, or of dispositions that determine ideas, and when this system is such that (p. 115) "its constituents are partial apprehensions of one and the same whole, so that their relation to each other is conditioned by their relation to the central idea of this whole," such a system is called an apperceptive system. Examples are: mentally conceived plans of action, which are capable of being long held, revived at pleasure, and adapted to various circumstances; or, again, conscious definitions of classes; or fashions of intelligent behaviour, such as are involved in speaking French or German instead of English. In all such cases whatever detailed ideas or images are in consciousness form but parts of one total mental attitude towards some real or ideal whole of objects or ends. The process of apperception itself is the process whereby such an apperceptive system "appropriates a new element or otherwise receives a fresh determination" (vol. ii., p. 112). Such appropriation involves an assimilation of the new elements to the constitution of the whole system, but cannot be reduced to assimilation (p. 118 *sqq.*); and herein Mr. Stout rightly differs from those Herbartians who conceive that apperception may sometimes be purely assimilative.

Meanwhile, all such synthetic apprehension of total meanings not only embodies systems of ideas, but fulfils the purposes of

conative processes. To know involves willing. To will involves knowing ends. To develop a process of conation means to become aware of an apperceptive system wherein means are considered as in relation to an end, and partial acts are apprehended as parts of one whole action, whose schematic apprehension constitutes the unity of one's voluntary plans. The parallel life of cognition and conation (chap. vii., pp. 82-109) is at once a life of seeking ends, of becoming conscious of what they are, and of determining special acts and insights by reference to the whole whereof they form part, and whose implicit apprehension precedes and teleologically determines the apprehension and the existence of the partial volitions and cognitions. All this our author (p. 82) takes to be a verification of his own theses as to the causal efficacy observable within the conscious stream. For my own part I accept it all in so far as it is a description of that rich life of meanings, and of the evolution of meanings, which constitutes the very essence of both intellect and will; but I find in all this nothing but the brute fact that consciousness, as it comes, finds itself full of meaning, and normally grows in meaning as it flows. The causal explanation of all this, in so far as there is one at all, belongs elsewhere. But the actual union of knowing and striving, of conation and cognition, of meaning as the attainment of insight, and of meaning as the fulfilment of hope and desire —all this union I fully accept, and I also fully agree that, in the determination of all such unions and of all such meanings, the idea of the whole is always prior to the parts—prior logically, prior teleologically, and prior just because if there is to be any meaning at all in consciousness the whole must appear there *as* prior to the parts.

Very brilliant seems to me, furthermore, the vindication of similar principles in the descriptive analysis of the series of conscious states in the cases where the revival of former "dispositions" is a condition of the present rational meaning of conscious states. Here (in chap. vi., pp. 43-81), under the title "Relative Suggestion," we learn that the reproduction of former states, *if* it is to serve the present ends of rationality, must be such as to be not, so to speak, literal, but rather formal, so that recalled wholes become capable of formal adaptation to present conditions, and so that new wholes can get formed through such adaptation of old forms (rather than of old contents) to the needs which present experiences determine. Examples of such revival of relative wholes, and of such adaptation of these wholes to new cases, we have in the power to sing an old melody in a new key, or otherwise to transfer a "pre-existing form of combination to new matter," matter with which the old form then, on occasion, blends, producing sometimes a result which may be very original, as a new poetic composition is original, although it retains the author's former style. This adaptive type of recall, whereby the past dispositions are not so much literally revived as plundered of their

significant wealth for the sake of current conscious needs, belongs once more to the most teleological aspect of the conscious process. From this point of view present consciousness appears, in relation to past consciousness, as a present construction through the use of former syntheses. That such is the character of the recall in case of rational trains of consciousness is well made out by our author, although, once more, the causation of the process is not to be made clear by any study of its meaning.

On the basis of such analyses, our author proceeds to a study of the thinking process proper, in its relation to language. Into this latter study I should be indeed very glad to enter did the limits of this paper permit. But the opportunity given to me has already been far too extensively used; I cannot venture to trespass further. There is space only for a summary statement of my attitude towards all such analyses. On the whole I accept them thoroughly and admiringly, precisely in so far as they are analyses of the immanent teleological constitution of the stream of consciousness, and of its various momentary and serial parts and regions. Such analysis is, moreover, of importance far beyond the range of psychology proper. It is a relief to meet with a psychologist who thoroughly appreciates that consciousness is not a mere flight of more or less associated contents, but is normally an organised system, or a series of such systems. To be sure, our author, in these days, is not alone, but his companions are still none too numerous; and there is certainly room for just such Analytic Psychology. But all such analysis is like a critical study of the actual constitution of a work of art; it is essentially immanent and teleological analysis; it does not and cannot furnish us with causal explanations. It cannot tell how the work of art is causally produced or sustained. Its laws, although socially verifiable, are here still laws of the inner conditions which make meaning possible. They are, therefore, essentially conditional laws. *If* meaning is to be possible, *then* consciousness has to be such, in its moments and in its series, that the whole appears as furnishing a *schema* that gets implicit expression through the parts. *If* consciousness is to possess such meaning, consciousness cannot be merely a series of associated images. *If* consciousness is to express personal life, cognition must be the embodiment of conation, ends must appear in consciousness as progressively attained, and conscious life must be *viewed as* an evolution of plans, and as a pursuit of ideals. A thorough-going analysis of mental life from this point of view is not only possible; it is one essential part of the work of a complete descriptive psychology. Yet I cannot believe that this one reaches an insight into the causal laws of mind.

Yet I may, nevertheless, go further, and may say plainly that I fully believe that one does thus reach truth, that is, metaphysically speaking, much deeper than any truth expressible in causal terms. In trying to sunder the two aspects that our author, to my mind, seems to confuse, I have really meant to vindicate what

seems to me the most valuable aspect of his work. Speaking as a student of philosophy, I hold that the category of causation is, metaphysically speaking, a relatively superficial category of what Mr. Bradley would call the world of "Appearance," and that the categories of Meaning go very much deeper into the heart of the Real than any psycho-physical or other causal explanations can ever do. Hence I regard our author's analyses as concerned with the descriptively psychological aspects of the really most vital truths about mind; and when I say that he seems to me mistaken in regarding his psychological theories as concerned with mental causation proper, I desire only the more earnestly to insist that his account of consciousness seems to me to describe, so far as that is possible, something far deeper than mental causation, and to give us what, for philosophical purposes, is much more important than causal explanation. In the last analysis Reality is not causally explicable, and causal explanation is nothing ultimately real. On the contrary, the Real is essentially something that has meaning; and the best account that we can give of it will always be teleological. Hence an Analytic Psychology, in our author's sense, can only gain in wealth by declining to undertake to pay the debts of causally explanatory psychology. As for the latter, its realm will always be psycho-physical; its methods will be those of socially verifiable inductions about the laws of human nature; and it will make little, in the long run, of "mental activity"; while, in its turn, "mental activity," if interpreted as a name for the significant structure and process of consciousness, viewed as a fact, will refer to something much nearer to the absolute reality than is the world of psycho-physical appearance.

Herewith must close this inadequate effort to distinguish in general between what arouses my dissent and what calls forth my assent in this strong, independent, and extremely subtle treatise. There remains very much interesting detail, into which I cannot here enter. May these volumes find the readers that they so well deserve.

JOSIAH ROYCE.

Geschichte der neueren Philosophie. Eine Darstellung der Geschichte der Philosophie von dem Ende der Renaissance bis zu unseren Tagen, von Dr. HARALD HÖFFDING. Ins Deutsche übersetzt von F. BENDIXEN. Band II. Leipzig: O. R. Reisland, 1896. London: Williams & Norgate. Pp. 677.

DR. HÖFFDING closed the first volume of his *History of Philosophy* with Rousseau and the French Illumination; he begins the second with a short book on the German Illumination and Lessing, after which he proceeds to Immanuel Kant. Next he

deals with 'Romanticism in Philosophy,' a title under which the Idealism of J. G. Fichte, Schelling, and Hegel, and the Pessimism of Schopenhauer, find their place. His ninth book takes up the subject of Positivism—in the wider and narrower senses of the word—in England and France. He concludes the whole with a book on the history of philosophy in Germany between 1850 and 1880. We shall do our duty best, both to our readers and to our author, by giving some account of his treatment of certain epochs, and writers whose works have made epochs, in the history of Philosophy. We will select as our first and principal specimen his presentation of the philosophy of Kant. If critical ability in literature is measurable by the critic's appreciation of Shakspere or Goethe, it seems no less true that the critical ability of the philosopher may be estimated by his faculty of appreciating Kant.

Höffding traces the development of Kant's philosophy through its several stages; noting carefully the influences upon him of preceding or contemporary thinkers. When Kant described the course of philosophy as passing from dogmatism through scepticism to criticism, he described truly enough what had occurred with himself. At first, pressing the Newtonian demand for a *vera causa* of all phenomena farther than even Newton had done, he was not content, like Newton, to assume that the present motions of the celestial bodies are due to the immediate *fiat* of God. The wildest *natural* hypothesis appeared to him more rationally acceptable than the *ignava ratio* of such supernatural explanations. Hence at an early period he formulated the famous nebular hypothesis. While thus engaged his enthusiasm was baffled, if not cooled, by difficulties intrinsic to the idea of causation. Hume's scepticism had infected him. The instrument which alone could explain how things came to be as they are in the cosmical system—the causal conception—became itself of questionable validity. Unless the question as to the validity of the causal conception could be cleared up, his cosmical speculations were doomed to be fruitless. Other conceptions likewise, as he found, required examination; among them, the conception of the soul then in vogue seemed to be of doubtful worth. Between scientific impulses and speculations on the one hand, and, on the other, doubts as to the faculty of acquiring objective knowledge, he lapsed for a time into scepticism; from which he at last emerged in the way described so minutely by himself in his greatest work—the *Critique of Pure Reason*. The thought which marked the end of his scepticism, and the beginning of his constructive thinking, is that which he himself compared with the thought of Copernicus. "As it is due to our standpoint on the earth that the heavens seem to revolve round us, so it is due to the nature of our own sensibility that we perceive things in space and time." What Newton had regarded as absolute space and time, thus became for Kant forms of our intuition. The laws of space and time are those of our sensibility.

If so, all experience must be subject to their laws, *i.e.*, the latter are valid for all experience. Hence the fact that the truths of Mathematics are universally applicable to Nature. While, however, validity is thus secured for the laws of nature and science, it is only on condition that their claim to validity beyond this sphere should be surrendered. Kant saved the objective truth of science by throwing overboard all pretensions to (dogmatic) metaphysics. This process of criticism was not complete, however, until he had applied it to understanding as well as to sensibility. Understanding is a faculty of synthesis. We cannot "understand" except by combining objects in the ways indicated by the 'categories'. The 'synthetic unity' is the condition of intelligence as well as of intuition.

The question whether the sensibility also possesses synthetic power is one which must be answered by reference to Kant's maturer thinking, and involves a previous question as to our right to separate sensibility from understanding as Kant does. There is no doubt that Kant at first did ascribe synthetic power to the sensibility, but just as little that this ascription is, according to his maturer thought, unjustifiable and that synthesis in every form is the work of understanding.

The application of the 'Copernican principle' to the understanding as well as to the sensibility rendered Kant's *Erkenntnistheorie* complete. The immediate consequence was that we cannot in any way know 'things *per se*'. We cannot know the soul, the world, or God. We may *think* these, but we cannot intuite them; and thinking without perception is hollow. Without given intuitions the understanding has really no objects before it; though it may have adventures in dreamland or ghostland.

In this thought of synthesis as the ground of conscious activity, says Höffding, Kant found a conception which advanced him beyond the atomistic psychology, the basis of empiricism, as well as beyond the spiritualistic psychology on which most idealist systems were founded. Against empiricism, which would treat the unity of the spirit as a bare result of manifold impressions, he asserts the unifying activity of consciousness as the very mint-mark of spiritual life, which refuses to be explained by any merely external influence. Against spiritualism, which had observed this mark, but referred it dogmatically to a mystical substance behind consciousness, he asserts that our knowledge is incapable of carrying us farther back than the foundation of spiritual life, so far as this foundation *enters into experience*. At the same time he advanced beyond the psychology of the Aufklärung, which took account only of the "clearly conscious," of that which can be seen in the sunlight of intelligence. Synthesis is, indeed, the continual presupposition of consciousness, but need not itself come forward as an object of consciousness. It can work darkly and instinctively as an inscrutable power of our innermost nature.

Höffding arranges his exposition of Kant's *Erkenntnistheorie* in

a way equally bold and excellent, not following the laboured and perplexing statement of its author, but presenting us with a well-digested and succinct account of what the latter was really concerned to teach. He commences with the "deductions," including not merely those of the Analytic but also those of the Æsthetic; giving us Kant's 'exposition' of space and time as forms of sensibility, and, immediately afterwards, his deductions of the categories. He next (after a few paragraphs on phenomena and things *per se*) presents us with Kant's criticism of speculative Philosophy (Pyschology, Cosmology, and Theology). Finally he exhibits Kant's relation to *Natur-philosophie*. Under these main headings Höffding expounds for us the substance of the great *Critique of Pure Reason*. It would be superfluous, even if space allowed, to follow him in detail through this exposition. We who are accustomed to Caird's masterly presentation of Kant have become exacting in our demands of an expositor. The student will find in the broad outlines sketched by Höffding evidence of a study as minute, penetrating and comprehensive as that made by Caird himself; nor will he regard it as a fault that the former does not, like the latter, criticise Kant from a purely Hegelian standpoint.

We must now draw attention to some of the strictures which Höffding offers on the substance of the Kantian philosophy.

It gave Kant great satisfaction to think that his table of forms or categories was complete. Höffding, however, denies that such completeness is even attainable by Kant's analytical method. We can never be sure that we have enumerated all the "forms". As little can we assure ourselves that in those enumerated we have reached the fundamental forms. Kant was under the impression that the *Vernunftkritik* could be effected once for all, not reflecting that every attempt at a critical philosophy must start from presuppositions of its own, which are in their way dogmatical and inevitably await their turn of criticism by some subsequent *Vernunftkritik*.

Kant divides his categories into the mathematical and the dynamical groups. In fact, however, says Höffding, the concepts of *quantity* and *causality* embrace all categories, being the two leading forms of the synthesis from which all knowledge springs. The familiar criticism of Kant's derivation of the categories from the forms of the judgment is repeated by Höffding here.

In reference to the derivation of the three Ideas from the forms of the syllogism, Höffding remarks that it is still more forced than that of the categories from the forms of the judgment, being, indeed, baseless. Kant himself has shown, in his *False Subtlety of the Syllogistic Figures*, that the syllogism requires no other function of thought than that employed in the Judgment. Hence there is no need to give the ideas a root in reason separate from this. He is so far right, however, that the Ideas (soul, world, God) spring from the involuntary needs of consciousness to

attain completeness—to "hang the chain of thoughts on an ever higher peg"; to form an absolute system as correlatum of the synthesis which is the ground-form of thinking.

Having concluded his exposition of Kant's theory of "Forms" (of intuition, understanding, reason) Höffding asks—is the distinction between the three classes of forms really as sharp as Kant would have it? Continuity, causality, Time and Space, as conceived by Kant, possess an ideal completeness, to which no experience is adequate. Continuity is an idea which finds only approximations in experience. What Kant named 'forms' are, in fact, only abstractions, or ideals, which we, by the nature of our knowledge, set up and use as standards and rules of investigation. Hence the "principles" are hypotheses, not proven truths. Experience itself, in the sense in which this word is used by Kant in his transcendental proof, is an ideal; and the point which Hume, whose doubt of the causal principle Kant wished to overcome, actually contested, was that there *is* any experience in Kant's sense of the term. Kant, therefore, has not solved Hume's problem, which, indeed, is perhaps insoluble; but he has done the service of bringing into prominence a side of the problem, or rather, a side of our cognition, which Hume neglected, and has thus advanced *Erkenntnistheorie* a long way. Kant's enthusiasm for the "Copernican principle" led him to ascribe more cogency to his proofs than really belongs to them. Instead of being content to represent his "forms" as types, or models, or anticipations, he tried to produce a stringent *proof* of their validity; but in this he failed.

Kant had, in his heart, as little doubt of the existence of things *per se* as he had of the validity of Newtonian science. His grounds for assuming the existence of more than mere "phenomena" are threefold. (*a*) It is improbable that ours is the only possible mode of cognition. To assume this would be like the error of the pre-Copernicans who took the earth for an absolute standpoint. (*b*) It is only as to its form that cognition has its ground in our nature, its matter, or content, being *given* to us in sensation, and having therefore a *cause*. (*c*) Reason falls into contradictions when it transcends experience, which contradictions can be solved only by assuming a distinction between phenomena and things *per se*. On the second of these grounds critics in general have fastened, declaring that it involves an illicit use of the principle of causality, which has (according to Kant himself) no extra-experiential validity. This criticism, made as early as Jacobi and Schulze, is, from Kant's standpoint, unanswerable; yet, Höffding continues, Kant would have been consistent if he had merely asserted that the *matter of cognition cannot be explained from its form*, that the varying and specific elements cannot be derived from the constant and unvarying outline. The possibility of experience ceases, indeed, if no sensations arise; but *how* they arise is a question with which *Erkenntnistheorie* has properly nothing to

do. Hume had clearly seen this when he declared the origin of sensation inconceivable, and added that the question had no importance for the special problem which he had raised. On this question Kant found himself in exactly the same position as Hume.

Kant, says Höffding, saw in things *per se* the cause not only of the matter of experience, but also of its form. If this is so, the forms are what they are only as long as their cause is constant in its function. While, therefore, knowledge founded on the validity of the forms is only hypothetical, it is no longer merely phenomenal, since it teaches us in some degree how the thing *per se* works. This point understood, Kant's whole system alters its character. Its *apriorism* and *phenomenalism* are lessened, and its *inconsistency* disappears. These three features of his philosophy are connected with his distinction between matter and form—a distinction which, even psychologically considered, is gravely doubtful.

Kant, says Höffding, does not assert the *reality* of free will as a faculty of absolute initiative in action, but only its reconcilableness with the fact that the empirical character is subject to laws of nature. According to our historian, he has failed to make good this assertion. In the first place, how can the intelligible be the cause of the empirical character if in this case the temporal relation be, as it must be, excluded? In the second place, if the empirical stands to the intelligible character as effect to cause, a purely empirical account of the origin of character is precluded. In the third place, since the intelligible character itself is no freely choosing agent, Kant's 'freewill' is no better than fatalism. The intelligible character which determines the series of human actions is itself *unalterable*.

Turning to Kant's Ethics, Höffding traces the influence upon him of Shaftesbury, Hume and Rousseau, through successive stages of thought. With reference to his final stage Höffding says: "However sharply Kant distinguished between theory and practice, yet for him both stood in close connexion. A leading thought in the *Critique of Pure Reason* was that an empirical world, a Nature, could arise for us only on presupposition of objective, universally valid, laws. The moral law he conceived in express analogy with the Law of Nature. Pure Reason is itself no phenomenon, subject to empirical conditions. The Theory of the empirical character is founded on this fact. Kant has, however, failed in his attempt to show how pure reason can be practical. He could, indeed, no more show this than he could explain how *things in themselves* could stand in relation to the world of phenomena. Kant's rationalism brought him near the point of transition to mysticism, just as mysticism (in the form of 'pietism') had previously contributed to the development of rationalism. Kant's ethical interest impels him to assign to the moral law a place in the intelligible world, or at least to treat it as the entrance to that world. Thus, as often happens, ethical idealism, by its enthusiasm and exaggeration, defeats its main

purpose. In fact, one does Ethics no service by founding it on a basis outside and beyond all possible experience.

Höffding traces with exceeding care the relationship of the *Kritik der Urteilskraft* to the preceding *Critiques*. It did not appear to Kant that the two worlds—of Nature and of Freedom—could be absolutely separate. Between both there must be a principle of unity. He had, in his previous Critiques, employed the distinction between things in our mode of apprehending them, and the things in themselves. While, however, the assumption of such a distinction belongs to the nature of our knowing faculty, it does not follow that the opposition which we (whose discursive thinking must analyse and distinguish in order to *know*) assume, or have to work with, should necessarily exist also in the essential nature of things. As Kant, in the *Critique of Pure Reason*, indicated, or hinted, that the ground of the *matter* of our cognition might be one with the ground of its *form*, and that the ground of material might be identical with that of spiritual phenomena; so in the *Urteilskraft* he investigates the possibility that the foundation of nature is one with that of Freedom. As an architect on completing an edifice breaks down the scaffolding which gave elevation for his work, so Kant does with the distinction of which he had availed himself during his previous inquiries. He retracts it when he has attained by its help a concept lofty enough to complete his structure of thought. The facts of natural beauty and natural purposiveness involve for their interpretation the assumption that Nature according to her own laws works in a manner analogous to mind. In the unknown ground at the bottom of Nature, mechanism and purposiveness may be united in a single principle. This is the profoundest thought in Kant. In it he resumes a favourite theory of his early years, that the basis of the causal connexion of things is one with that of the purposiveness and harmony of Nature. With this thought his romantic successors were fain to commence. They would begin where he left off; what he was content to leave as an hypothesis, they endeavoured to employ as a dogmatic position, a major premiss of philosophy.

Our knowledge of the Kantian philosophy must be very imperfect if we do not know its defects as well as its merits. Some of the most dangerous as well as most instructive criticism it has had to encounter was formulated even by contemporaries, such as Hamann, Herder, Jacobi, but above all, Salomon Maimon. Yet the ordinary student has little knowledge of these writers. The whole subject is so vast, that few have either the ability or the time for dealing with it adequately. We are the more thankful to Höffding, who gives us a conspectus of the intellectual forces with which the critical philosophy had to contend. It seems, from the first, to have been more indebted to its opponents than to its disciples. The latter as a rule, carrying some parts of it to extremes, brought undue discredit upon the whole. The former, while drawing attention to its weakest points,

testing it and trying it on every side, have failed to shake its hold upon the mind.

To criticise Höffding in his judgment of Kant would be a difficult task, and would lead us far beyond the limits of a review. Indeed we are, for our part, more disposed to admire than to find fault with one whose sane and balanced judgment appreciates alike the weakness and the strength of a writer to the study of whom he must have devoted a large portion of his life-work.

Proceeding from Kant to the Romanticists, we read that the spirit in which Kant's philosophy was extended in Germany was equally determined by the objections of its opponents and the attempts at its rectification made by its disciples. It seemed to lack *totality*. What prevented Kant from completing his philosophy was his assumption of a thing *per se* which led to contradictions. This is connected with his untenable distinction of the form and matter of knowledge. The cry arose—abandon this assumption! Then philosophy can be consistently carried out—on the basis of Kant's thought of the essence of mind as Synthesis. Young thinkers grew enthusiastic over the prospect thus opened up. All externality, isolation, dividedness of spiritual life would disappear. If the unity of all things could be thus shown; if all living forms could be treated as grades, or phases, through which one and the same Infinite Life extended; not only the life of the individual man, but that of the race in history, and even the life of Nature, could be reconsidered, and presented in a new and satisfactory light. The lines which separate science, religion and art would disappear, and all the discords of the soul would be harmonised or abolished. Such an ideal of cognition, however, says Höffding, may well be called romantic. With this preface he ushers in his treatment of Fichte, Schelling, Hegel, etc. It will serve to give our readers an idea of the way in which he regards them. The history of these romantic systems only makes him turn once more to their great source—the philosophy of Kant.

Positivism comes next to be considered. This and Romanticism form the lines of speculation characteristic of the nineteenth century. Höffding's account of their relative aims and methods is interesting and instructive. Romanticism and Positivism, the one starting from the ideal, the other from the actually given, seem to be the antitheses of one another. Their standpoints are opposed. Yet both are derived from the same interest, and have the same presupposition. The one as well as the other strives to apprehend actuality, only that Romanticism thinks it can grasp this subjectively, while Positivism prefers to build on objective facts. Their common presupposition is that any ideal which stands outside the sphere of actuality is false. In both the idea of evolution is dominant. Both take a deep interest in tracing the continuity of history. The attempt to reach a profounder understanding of the past and of the conditions under which spiritual life is developed forms an essential part in the problem of both.

Hence it would be false to regard Positivism as a mere reaction against the Romantic philosophy. Yet while they agree in the points stated, there is one respect in which they differ *ab initio*. Romanticism, in its enthusiasm for the *unity*, overlooks the *manifoldness* of nature. Convinced of the truth of its ideal, it thinks less of the stringent mechanical conformity to law to which all that abides in nature must submit. Positivism, laying its foundations in what is actually given, appreciates the differences and oppositions of reality, and tries to ascertain the laws according to which the phenomena of the real world occur and are developed. Positivism, therefore, finds its difficulties when it strives to rise from the actually given to the unity of thought and the validity of the ideal; Romanticism, when it endeavours to descend from its ideal heights and step into the world of the actual. It is the province of the historian of philosophy, Höffding thinks, to compare both and decide which of them is the more favourably placed for traversing the interval between starting-point and goal.

Ὁδὸς ἄνω κάτω μία καὶ ὠυτή—the saying of Heraclitus in his theory of Becoming—is a dictum which may find application also in the theory of Knowing. In the processes of ordinary thought, and even in science, the upward and the downward ways are equally useful and both indispensable, yet, for the purposes of philosophy, no man can travel either, much less both, completely. The poet's, but not the philosopher's, eye may "glance from heaven to earth, from earth to heaven". Philosophy demands that the principles of unity and heterogeneity should have even-handed justice done between them. Yet no system has ever succeeded in fulfilling this demand. We still find the Romanticists on the one hand, the Positivists on the other, in hostile camps. Such has been the case from age to age. Whether the discord in human thought, when it tries to grasp the two ways in their whole length as one, will be ever harmonised—*viderit deus!*

Meanwhile the history of philosophy remains of more value than any of the so-called systems which it contains. Among the many merits of Dr. Höffding's work, the greatest is that it succeeds better than any other with which we happen to be acquainted in presenting this history in a connected and coherent form. It impresses one with a feeling of hopefulness for the future of philosophy; tending to remove the vague, uneasy suspicion that philosophy in the past has been like unto him who twisted a rope of straw, unconscious that an ass behind him ever ate this rope as fast as it was formed. Höffding's book gives one confidence that something has been done for the solution of the highest philosophic problems; explains what that something is; and so states the problems themselves that they appear, if not destined for actual solution, at least instrumental to the higher development of the human mind. We conclude by noting with satisfaction that this work is being translated into English.

JOHN I. BEARE.

The Mental Development of a Child. By KATHLEEN CARTER MOORE. Monograph Supplement to the *Psychological Review*, October, 1896. Macmillan & Co. Pp. 150.

THIS brochure comes opportunely in more ways than one. To begin with, it is a vigorous piece of individual observation, which is precisely what is wanted to correct the common impression that the conclusions reached by a single observer—for example, Preyer—hold good of all infants. Binet, Baldwin and others have shown that this is not so: Mrs. Moore's monograph illustrates the diversity among infants still more fully. Some of her observations, indeed, deviate in a startling measure from those of her predecessors and call loudly for further "controlling" observations.

In the second place, this new record of infantile development illustrates, if I am not greatly mistaken, the dangers besetting the new path of child-observation. Women—and particularly mothers—are, as I have elsewhere urged, exceptionally well situated for carrying out a careful and continuous record of an infant's mental progress. On the other hand, the observation of the mental manifestations of an infant is especially difficult and is hardly possible save to one who has both undergone some methodical training in simpler kinds of observation and served a further term of apprenticeship as a student of psychology. How widely the untrained mother, knowing nothing of scientific responsibility, can go astray in this alluring region, has recently been illustrated in English literature. Mrs. Moore is by no means a mere dallier with infantile ways; she has a very real scientific interest in them. Her observations are often close and valuable: the aid which, as she tells us, she has received from her husband, a medical man, may have helped her here. But there is throughout a lamentable exhibition of insufficiency of psychological training. What is one to think of an observer who after telling us that she has drawn her greatest inspiration from the works of Professors Preyer and Wundt adds in a footnote that she has read "*Die Seele des Kindes*, translated and condensed by Miss Emma Marwedel and appended to her book *Conscious Motherhood*"? Why, one asks, did she not at least prepare herself by reading the very good translation of Preyer's work published by Messrs. Appleton? One would conjecture, from internal evidence, that Mrs. Moore has read hardly anything in child-psychology, save perhaps Dr. Tracy's bare epitome of its principal results, which is of course perfectly useless for learning the methods of the science. And so it results that, notwithstanding excellent opportunities, and one would say a good deal of natural shrewdness and even something of subtlety of insight, Mrs. Moore has produced a work which cannot compare in scientific value with the more modest, restricted but thoroughly informed and accurate study of Miss Shinn of the University of California.

A word or two on the faults of the work may suffice. The want of any clear logical order is simply appalling. This is seen at the outset in the classification (?) of movements. After setting forth a classification of her own (which by-the-bye sadly needs explanation) in which neither Reflex movements nor those of emotional expression occur, she afterwards nullifies her mode of grouping by bringing in under special sections these two sub-classes. "Inhibitory movements," again (by which she seems to be naming processes such as sensation which inhibit movements), come in later on under Hearing! Once more, imitative movements, though they are referred to more than once, do not appear in the classification. "Hearing" is the title both of a main section and of one of its sub-sections: similarly "Vision" is a sub-section under "Sight". It is a pity that Mrs. Moore did not give her MS. to some competent person who might at least have got rid of its utterly confused look.

The observations themselves have both defects and excellences. A glance will show how far Mrs. Moore is from the idea of a really continuous and methodical record, on the model of Preyer's monograph. The setting forth of a series of dates is deceptive: again and again gaps of weeks and even of months are at once noticeable in what is presented as a record of the "development" of some mental characteristic. Nor do the observations show the admirable scientific restraint and reticence which is surely nowhere more needed than in this field of investigation. On the contrary, Mrs. Moore too frequently gives vague statements of what *occurred* rather than precise statements of what *was seen*, and sometimes seems to mix observation proper and conjectural inference. This is the more surprising as the writer marks off a sub-section, "Interpretation," under most of her sections, though here again it is easy to see that the divisions of the subject are not adhered to. As an example of the intrusion of an element of interpretation into the record of observation I may quote the statement that "at seventy-five hours his (her boy's) eyes turned *from one object to another*" (p. 45), to which she adds, with something of *naïveté*, "the eyes were not in focus". Had the 'turnings,' one asks oneself, really anything to do with the 'objects'? This surely requires proof. One of the most remarkable of these omissions to distinguish observation proper from inferential interpretation occurs in the account of early attention. Will it be credited that an observer, who tells us that she has studied psychology, unhesitatingly maintains that because an infant, apparently in the first weeks, would gaze "at a patch of light or a moving object during a period varying from fifteen to thirty minutes" he evinces as much attention of a kind as an older child? It never seems to have occurred to the observer that his prolonged 'gazing,' so far from being close strenuous attention, as she assumes, was probably a kind of self-hypnotising. Nobody, least of all, one would say, an infant, can go on looking intently at one and the same visible

object for five minutes, leave alone fifteen or thirty. Observant teachers know well the 'gazing' of young eyes which, so far from meaning attention, points to dreamy distraction and vacancy. As Mrs. Moore herself reminds us immediately afterwards, an older child's prolonged act of attention is supported by "continual changes" which the child himself induces in the object.

Yet a student who felt repelled from Mrs. Moore's record by this and other illustrations of a want of the necessary scientific attitude of mind would lose much that is valuable. Many of the observations are new and interesting, and though they may have to be verified by other observers, they will certainly supply a new stimulus to child-study. I will rapidly go over some of the more important of these.

There is a good series of observations on the development of the thumb-sucking habit. The experiments, *viz.*, incasing each of the thumbs alternately and tying up both, were carefully carried out, and the results tabulated. This is a really careful piece of work (pp. 12, 13). Interesting, too, are the observations on the early use of the feet as tactile organs, supplementary to the hands. In the twenty-sixth week, we are told, "they invariably supplemented the hands in feeling of (*sic*) objects, the hands grasped the object first, the feet then went up to feel of it. One hand, or one foot, rarely acted alone, though the movements were not symmetrical" (p. 17). Mrs. Moore hardly explains why she rejected her first supposition that this use of the feet was a rudimentary instinct. Later on (p. 79) she remarks that the lips and the tongue were the first organs of active touch, the hands coming next, and lastly the feet. Other careful observations have to do with automatic movements, by which seem to be understood unconscious movements during sleep. The writer treats of these as secondary automatic, that is, as movements that had been acquired during the waking state. Thus she notes that the child in the thirty-second week began to roll in his crib during sleep, having previously learned to roll on the floor (p. 36). A new observation, or rather sequence of observations, is forthcoming in the account of the early stages of voluntary movement (p. 23 ff.). On the fourth day the child if touched on the cheek turned his open mouth towards the side touched. This he could not do before. The explanation is that "each time that he was to be fed the child was laid in a certain position, and the nurse, taking his head between her hands, turned it slightly to one side in order to put his lips against the nipple". On the fourth day he had gone through this experience about thirty times. This explanation strikes me as exceedingly doubtful. The pressure of the nurse's hands ought surely to have set up, if it had set up anything, a tendency to a movement not towards, but away from the side touched. Nevertheless the suggestion that passive movements of head or limb induced by another may help to develop associated tendencies which are afterwards taken up into active

movement is a striking one, and should prompt to further investigation. There is a neat little account of the genesis of a gesture-movement, *viz.*: "a lateral chopping motion of one or both arms" which served as a sign of dismissal in the twentieth month. It was, we are told, at first an imitation of the mother's action in brushing away the flies which came round the food (p. 31). It would be interesting to know whether imitation often contributes in this way to a child's gesture-language. There are, further, some valuable observations on the first localisation of sounds. Although the boy, as the result of the parents' play-like experiments, proved that he could recognise the direction of sounds in the forty-eighth week, he could at the time have had hardly any aural perception of distance. This seems to be shown by the fact that six weeks later "in calling to a dog at some distance he scarcely raised his voice above a whisper" (pp. 66, 7). Apropos of the growth of the visual perception of distance it is noted that before the sixty-eighth week the boy had no perception of distance below his own level. It was only in the seventieth week that he learned to go down stairs (p. 110). This touches a neglected side of the visual perception of distance. As a last example I may take the observation of the first localisation of pain. This, according to Mrs. Moore, followed and depended on the localisation of dermal sensation. Internal pains are said to have been localised on the surface of the body, but here I suspect there is an opening for error in interpretation. Other points dealt with in a suggestive way are motor-reactions viewed as a measure of the intensity of sensations (p. 54) (Mrs. Moore rightly views motor-reactions as an element in perception, p. 59); the first appearance of "associations of similarity" (pp. 93, 4); and the slow process by which a child acquires the knowledge of so large and complex an object as the human figure (p. 99).

I hope that I may have succeeded in showing that Mrs. Moore's monograph, in spite of its defects, contains much that is at once readable and valuable. I am disposed to think that her boy was exceptional in more than one particular. In respect of early and what may be called sub-voluntary movement he was, if the observations are correctly interpreted, distinctly precocious; yet in other ways he strikes one as backward. When, for example, we are told that there was no connexion of ideas with words during the first year (p. 95), one must infer either that the boy was almost abnormally slow, or that 'words' here mean his own spoken words. The record of the child's language, which is very slight, bears out the conjecture that his intellectual development was tardy. A bird has been confused with a fly by other children, no doubt from want of a clear perception of distance; but the calling of a cow a bird—if the cow was anywhere near the child—seems to argue unusual want of discernment. Mrs. Moore ingenuously suggests that the extension to the cow of the name "bird" rather than of "dog" was the result of a temporary fondness for the

newly acquired word "bird" (p. 124). The passage is well worth reading as a good example of the writer's happy combination of observation and thought.

JAMES SULLY.

Psychologie du Caractère. Par ALBERT LÉVY, Docteur en Philosophie et Lettres. Paris: Félix Alcan, 1896. Pp. 207.

THE reader of this work will be struck at the outset by the curious position which the author assigns to ethology. He places it between "experimental psychology" on the one side and "rational psychology" on the other (p. 1). Rational psychology considers "the origin, essence and destiny of the soul" (p. 2). It is purely "synthetic and disdaining the contingencies of terrestrial life"; while "experimental psychology" is "purely analytic" (p. 1). The author does not explain what he means by 'experimental psychology,' whether he takes it to include all psychology as ordinarily understood,—which is confined to "the contingencies of terrestrial life,"—nor what ground there is for supposing its method to be purely analytic. We have been accustomed to regard ethology, since Mill wrote his famous chapter in the *Logic*, as an applied psychology. This standpoint M. Paulhan has consistently maintained. M. Lévy has not brought forward any reasons for showing that this view is incorrect, nor has he explained whether he dissents from it, nor what precise meaning can be attached to the position he assigns to ethology as falling between these two departments of "the science of the human mind" (p. 1).

Having at last separated psychology from metaphysic, we do not wish to see it again sucked into its vortex through an attempt to represent "rational psychology" as one of the departments of "the science of the human mind". But I suspect that M. Lévy thinks differently. In taking up the position of a psychologist, he does not leave his metaphysical beliefs behind him, or use them only as scientific hypotheses where the facts cannot be explained without them. He imposes them alike on the mind of the reader and on the facts. The first part of his work is in large measure an apology for free-will, special creation, the *principium individuationis*, as an *ego* innate in us, yet not inherited or altogether inherited, but with which we are endowed at birth by an act of special creation. What the author precisely means by free-will he does not tell us, nor how it can be reconciled with an attempt to construct a science of character; still less does he point out, what any man who adopts a scientific attitude is bound to do, that type of will, if there be any, which cannot be explained without the assumption of free-will. Such a type of will must in the first place be proved to exist; and its analysis must conclusively show that

it is only capable of explanation on the hypothesis of free-will in one sense or another.

But it would be unfair to judge the author's work as a whole by this part of it. He not only furnishes an interesting historical account of the various attempts which have been made since the appearance of Kant's Anthropology toward constructing the proposed science, and adds a much-needed bibliography of the subject, but he has given the most complete account which I have yet seen of the various influences in the environment, whether social or merely physical, which go to the formation of character;—the gifts of health, beauty and strength, and their contraries; the changes of the organism from infancy to old age; the effects produced by different kinds of nutrition, by various diseases, by hot and cold climates, by the richness and poverty of the soil, by various social influences, by opinion and custom, by the impulse of imitation in the child. On the other hand he has not succeeded in formulating these influences and the changes of character that seem to accompany them as scientific laws of tendency universally valid. It is difficult to do more than to point to certain conjunctions as probable or as frequently found to exist. And among such empirical generalisations it is rare to find any careful and precise analysis of the qualities of character or of the particular change in the environment or organism which seems to produce them. Thus M. Lévy remarks that the character of the sexes, which before puberty appears almost the same, at that epoch becomes clearly differentiated, "more sweetness, timidity, delicacy and sensibility fall to girls; the boys become more active, impetuous, audacious" (p. 103). Now is it certain that these changes of character are due to a change in the reproductive organs, and is it certain what precisely they are for all members belonging to the same sex? Do boys become more active after puberty than in childhood, and what precisely does this activity mean? Children appear in general more active than adults, if we confine ourselves to the physical activity we can all see. They play and romp while the nurse sits looking on or sewing. But if we do not confine ourselves to physical activity, how can we be sure of its increase or decrease, and by what common standard can we measure physical and mental activity? And is it certain that boys become more courageous and girls more timid at puberty, or is the increase of courage of the former due to the general growth of the organism and the consciousness of increasing strength that accompanies it? Does it include moral as well as physical courage? Again, is the increase of timidity in girls due not directly to the bodily condition, but to the consciousness of a state which has to be concealed and a new danger connected with it? With regard to the last, it will depend largely on their personal attractions. If they are ill-favoured and no youth pay court to them, they will scarcely, unless blinded by conceit or stupidity, be conscious of a danger. And if this increase of timidity where it occur as a fact may be

due in part to the consciousness of a new danger in life, it will depend largely on the state of society and the grade of society in which girls are brought up, as well as upon the modesty of their character. Where women are sure of respect and a chivalrous attitude in men toward them, they will have little to fear. Do American and English girls of the better classes grow up into demure maidens with downcast looks, whose hearts flutter whenever a man approach them? And can we imagine that such types as Catherine and Marie Tonsard in Balzac's *Les Paysans* were ever made timid by the advent of puberty?

If we take next the supposed increase of sensibility with girls, what does this vague quality signify? Do they become more sensitive to all impressions of sight, touch, taste and hearing, or is it their feelings of pleasure and pain which are referred to? Do their emotions become more intense and more easily excited? And is it the fact that boys, on the other hand, become more audacious? Among boys badly brought up, in bad surroundings, with strong passions, indulging on all occasions when the other sex is spoken of in obscene language, awaiting the first opportunity to gratify their desires, the advent of puberty may make them more audacious and impudent in relation to the other sex. But among boys well brought up, and where the tone of a school is good, the effect is often quite opposite. It is between the ages of sixteen and twenty or thereabouts that the bashfulness and timidity of youths in the presence of young women becomes so clearly manifested. Their new state, of which they may be but vaguely, if at all conscious, makes them suddenly shame-faced in the society of women. But even this result, if it be certainly influenced by the advent of puberty, is largely conditioned by the preceding frequency or infrequency of social intercourse, and companionship in games and sports, between the sexes.

If we then pretend to raise the study of character to the rank of a science, or if, more modestly, we merely attempt to study it by the scientific methods in use in general psychology, we cannot allow such loose and unanalysed statements as we have been considering to pass unchallenged. In describing any change of character it is not sufficient to give the names of its qualities, as 'modesty,' 'timidity,' 'delicacy'. Such qualities must be thoroughly analysed before they can be employed with anything approaching precision. Then only shall we be able to appreciate how much truth there may be in the current generalisations about them and the causes to which they are due. Unfortunately the recent works on the subject have mainly been composed of such loose statements, which we know not how to treat because we can get no grip of the thought contained in them. An error that is trenchant and cut into clear thought and expression we can deal with, but truth or error that lies concealed in the vague thought of those words which express the qualities of character reduces us to despair.

In the general lines of his theory of character, the author seems to follow M. Fouillée. Like him he takes as his basis the distinction between the innate and acquired character. The importance of this distinction for the theory of character would be justified if we could apply it with the same success as the distinction between instinctive and acquired actions in biology. Even the biologist has to proceed with great caution in deciding whether the co-ordinate activities of some bird or mammal are instinctive or acquired. He must observe and experiment with them at the earliest possible moment after they are hatched or born. And in the case of some deferred instincts it is difficult to estimate how much is congenital, how much acquired. But in dealing with the human mind our difficulties are enormously increased. The infant does not come into the world like birds and insects with relatively perfect instincts. All is immature with it; and both its instincts and innate mental constitution only come to perfection through trial and repetition. The innate and acquired characters seem inextricably blended. They are not separate or distinct from one another. On the contrary it is our innate mental constitution which, in the course of its psycho-physical development, acquires new characters. It might be thought that such an obvious point of view would not be departed from; but M. Lévy disregards it. Like M. Fouillée he speaks of character as formed of successive layers (couches) at the bottom of which is the innate self. "The acquired character," he says, "the adventitious and conventional self, is but the envelope more or less dense, more or less opaque, more or less resistant which covers the natural" (p. 85). There exist in each of us "two moral individualities very distinct, the one essential, primitive, natural, the other superficial, artificial, conventional" (p. 79). Now it may be readily admitted that most of us contain a superficial character which we expose to the world and a deeper character which, through reserve and self-respect, we conceal, or disclose only to our friends. What cannot be admitted is that the one is composed of purely innate constituents, the other of purely acquired constituents. The inherited and acquired are fused in both. The same constituents, thought, emotion, desire, will, enter into both. And whatever of these constituents is congenital and not acquired by imitation, by trial and repetition, is equally innate in both.

It is a pity in a work written in so attractive and pleasant a style that the author should not have subjected his leading ideas to a closer scrutiny and self-criticism.

ALEXANDER F. SHAND.

A History of European Thought in the Nineteenth Century. By John Theodore Merz. Vol. i. Introduction—Scientific Thought, part i. Edinburgh and London: Wm. Blackwood & Sons, 1896. Pp. xiv., 458.

It would be absurd to attempt any hurried appreciation of this work. Only one volume is before us, and the whole of its content depends, for fulfilment or for complement, on what is yet to come. Further, the work is one which stands altogether above immediate criticism. The incalculable labours of its preparation, its novel and possibly unique method, and the perfect clarity of its form, place it among those books which are judged by time and use. The abiding interest of its subject, its probable isolation, and the uncommon fitness of the author, would more than justify such a statement. Few men possess at once the literary art, the philosophic standpoint and the scientific information and sympathy of Mr. Merz; perhaps no other so equipped will devote a lifetime to a labour which requires no less. All who are interested in science owe very much to the author; he has rescued for every one the history of the most complex period of thought, and has presented it in a moving form. He has done nothing lightly; the reading involved in his study appears to have been positively exhaustive, yet his pages are read with remarkable pleasure. If the student will look for evidence of the author's intimate and practical knowledge of the very diverse writings and theories with which he has had to do, he will find it, but learning does not disturb the clear movement of the argument. The quality which most claims attention is a certain rare restraint and maturity; the work seems to have perfectly attained the proportions which are proper to it.

We have before us the Introduction and the first part of the study of *Scientific Thought*. The latter gives the movement of the scientific spirit in France, in Germany and in England, and proceeds to the exhibition of the astronomical and atomic views of nature. This section will be completed by the consideration of the mechanical, the physical, the biological, the statistical, and the psycho-physical views of nature; the second main division is to be occupied with the study of *Philosophic Thought;* and the third part will include the study of that great body of undefined and unmethodical thought which is predominantly personal and individual in character, constituting the twilight from which the other forms arise into their focal illumination. This third section, not easily named uniformly with the others, will be entitled *Religious Thought*.

The first three chapters, dealing with the three countries, are rich in content, omitting, so far as it is possible to judge, no significant factors in the development of European science, yet presenting us with short and well-wrought pictures; one receives the impression of life and movement in the development. In

addition to the restraint of proportions and richness of content, the reader will notice a peculiarly satisfying method. The author studies this method throughout; it is the result of a resolute effort to exhibit the process of the century with the utmost concreteness. The history of events, of social and political changes and conditions, lies just below the surface; racial and national temperament have their value; the instruments and institutions of knowledge and research are not omitted. It is to this impulse, indeed, that we owe the separate studies of the three countries, as well as the study of the unmethodical and inarticulate thought of the century. An easier method, in dealing with the same material, would have been to show a series of monumental intellectual products, and to exhibit purely scientific relations between its members. Mr. Merz chooses rather to explore the mass of which the latter are waves, and to find reaction between every part and the whole; he aims at articulating the hidden movement of thought, which, although it has wrought so manifold constructions, is yet individual throughout. This is not a history of science and art, or of other outward achievements; it is a history of the whole mass of thinking in this century—a coherent picture of its inner life. These three chapters owe much of their charm to this method; we observe no mere string of scientists, no abstract occupation or results; we see the scientific spirit as it moved men who were not cut off from practical and moral life. The love of nature, the spirit of enterprise, the requirements of government and industry, the great corporations of learning and research, with many other such practical factors, enter into the matter. It is the study of the development of an attitude of mind; everything that has modified or contributed to the scientific spirit, or that indicates its progress, has its value to the study. The well-organised measurements and calculations of France, the German philosophical and historical contribution, the isolated labour of the English student who has been especially thrown into touch with nature—these factors, in all their assimilation and fertilisation of one another, are very vividly exhibited. It is impossible within the present limits to enter into special points, and it would be hard to criticise them under the author's point of view. Intellectual constructions appear not by themselves, but as marks of the intellectual process, and when they have served that end they rightly disappear; it forms no part of the author's intention to judge a point of view or a theory as adequate or formal in this or that respect; his business is to show how men came to think so or to work so, and to find in the point of view or theory an organ of their individual inner life. Further, all the special views of nature which are here treated together and as one development, are later to be studied separately; we are therefore unable to ask fuller treatment for this point or for that.

Of the study of the astronomical view of nature, and of the beginning of the study of the atomic view, which occupy the last

150 pages, one may say that they are both perfect models of intelligible exposition. Having the form of history, they are true in catching for the reader the essential idea which worked in each moment of the progress of the sciences concerned. This is especially noticeable in the sketch of the development of chemistry. There does not exist any other so complete, short and lucid account of the successive steps which chemistry has taken under the conceptions which are associated with the names of Dalton, Gay Lussac, Avogadro, Mitscherlich, Mendeleeff, etc., or of the essential contributions of Clerk Maxwell, Pasteur, Joule and others to the atomic theory. So far as it is possible to judge, the same will be true of the chapter on astronomical theory; it, like the other, is a remarkably clear essay. We have in these two chapters the exposition of the advance of exact measurement in relation to molar and to molecular masses. There are not wanting signs that the views of nature here described may be related to the other views in a scale of conceptions such as the philosopher may use for the unifying of science; at present, however, we have just history of science in which the successive working ideas are brought into admirable prominence.

The eighty-five pages of the Introduction throw a clearer light on the author's intention than can be gained from the rest of this volume, which necessarily deals with only a very small part of his material. The immediate aim of the work is historical. It is the record, by a contemporary, of the general attitude of mind of the last generations, the features of which cannot be reconstructed from its works. 'It is the object of these volumes to fix, if possible, this possession; to rescue from oblivion that which appears to me to be our secret property; in the last and dying hour of a remarkable age to throw the light upon the fading outlines of its mental life; to try to trace them, and with the aid of all possible information, gained from the written testimonies or the records of others, to work them into a coherent picture, which may give to those who follow some idea of the peculiar manner in which our age looked upon the world and life, how it intellectualised and spiritualised them.' Or, as the question of the book is presented later: 'What part has the inner world of Thought played in the history of our century—what development, what progress, what gain has been the result of the external events and changes?' But such history has a deeper value than that of mere record. It is at least the preparation for the treatment of all human thought as an individual unity, and presupposes that conception. It is not easy to fill the idea that the sum of human knowledge is an organic whole; the encyclopædic method reveals no unity, and the unity which is born of systematic formulation is barren; the idea remains a conviction which seeks, and will some day find, a deeper expression. 'Unless I believed that our age was elaborating a deeper and more significant conception of this unity of all human interests, of the inner mental

life of man and mankind, I do not think I should have deemed it worth while to write the following volumes: for it is really their main end and principal object to trace the co-operation of many agencies in the higher work of our century; the growing conviction that all mental efforts combine together to produce and uphold the ideal possessions of our race; that it is not in one special direction nor under one specific term that this treasure can be cultivated, but that individuals and peoples in their combined international life exhibit and perpetuate it.' The essential unity of thought is not to be exhibited after abstraction from any one of its manifestations, or after abstraction from human interests and from the historical process of thinking. The philosophical conceptions under which Mr. Merz has worked appear more plainly in the following lines: 'Many may now think it premature or altogether impossible to try to combine the detailed studies of modern science and modern history with the comprehensive view demanded by philosophers and poets, or to grope through the labyrinth of external phenomena and events to their underlying significance and unity. . . . I propose in the sequel to test within narrower limits, and by what seems to me a novel method, the validity of the conviction that a true understanding of phenomena and events can be attained only by viewing them in their interdependence and collective effect. If anything in the wide expanse of physical and mental life deserves to be considered as one and indivisible, it is surely human thought in its various branches and manifestations. . . . Comparative anatomy teaches how from a few surviving links to construct the whole framework of an organism. I propose to apply a similar method to the small portion of mental progress of which I have been able to take personal notice and of which I have felt the immediate personal influence. A tracing as concisely as possible of this comparatively small portion of the course of European thought may be the first approximation to more accurate delineations, which themselves will be the means of gradually gaining a truer idea of the purport and significance that belong to the larger dimensions of the mental life of mankind.' The last words of the Introduction may also be quoted: 'The interdependence of all human interests will reveal and explain what truth attaches to Hegel's celebrated doctrine of the inherent dialectic of ideas, the spontaneous development of thought,' a note which, it may be expected, will have large influence on the work.

The limits of this notice have necessitated the treatment of the Introduction as a mere preface to the book; it is really much more; it is an essay covering much ground and written with a living style. All students will look forward to the completion of this work with grateful expectation.

GEORGE SANDEMAN.

VII.—NEW BOOKS.

New Essays Concerning Human Understanding. By GOTTFRIED WILHELM LEIBNITZ. Together with an Appendix consisting of some of his shorter pieces. Translated, with notes, by ALFRED GIDEON LANGLEY, A.M. (Brown). New York: The Macmillan Company. London: Macmillan & Co., 1896. Pp. xix., 861.

IT is scarcely creditable to English metaphysical scholarship that the first complete translation of a work so intimately connected with the history of English philosophy as the *Nouveaux Essais* of Leibnitz should be coming to us in the year 1896 and from the other side of the Atlantic. Mr. Langley can at least be congratulated on having undertaken a task as honourable as it must have been laborious to any man whose heart was less in the work than his own. For he has not only put the whole of the *Nouveaux Essais* into a more or less readable English—in itself no trifling labour—but has annotated them with copious explanations of the abundant scientific and historical allusions and provided an appendix of miscellaneous *opuscula* of Leibnitz which serve to illustrate parts of the main text. The mere bulk of such an achievement is so considerable, and the zeal for philosophy to which it bears witness so admirable, that I am unfeignedly sorry that the greater part of the present brief notice must necessarily be taken up in pointing out the serious defects which gravely diminish the value of Mr. Langley's work. Mr. Langley is an enthusiast in the cause of Leibnitz; he possesses a great store of that antiquarian knowledge which is so indispensable in a translator of the most learned of modern philosophers, and he is evidently well acquainted with the main developments of metaphysical thought since the time of Leibnitz. It may seem strange that a writer so gifted should have produced a translation of his author which the most lenient critic can only pronounce thoroughly unsatisfactory; yet the fact is so, and the explanation is not far to seek. With all his admirable endowments Mr. Langley completely lacks the one qualification which is absolutely essential to a translator of Leibnitz, an adequate knowledge of French. His linguistic mistakes are, indeed, so numerous and so serious that one is almost tempted to think that he must have set out to learn French by translating Leibnitz. The pages of Mr. Langley's book are reasonably numerous, some 850 in all, but I doubt whether the more or less serious mistranslations which disfigure them are not more numerous still. These mistakes may be classed, in the main, under three heads. These are: (1) Idiomatic blunders in the translation of such words as the definite article, the particles *même*, *que*, and so on. These lesser errors are so numerous as hardly to call for any remark. (2) Mistakes as to the meaning of common French idiomatic phrases, *e.g.*, p. 156, "time *could not* be determined" (French—le tems ne *laisseroit pas* d'être déterminé); p. 239, "the principle of individuation *reappears in individuals in* the

principle of distinction" (French—*revient* dans les individus *au* principe de distinction); p. 170, ". . . a multitude of objects which *do not recur immediately*, and the *nature of which could not go on to obtain their ends*" (French—qui *ne nous reviennent pas tout à fait* et *dont* la nature *n'a pu se passer, i.e.*, which are not altogether pleasing to us, though nature has not been able to dispense with them); p. 133, "this proves *all the more*" (French—*tout au plus*). (3) Sheer blunders in translation, of the kind popularly known as "howlers," *e.g.*, p. 100, "the *being we* is innate" (French—l'être nous est inné); p. 142, "water, cold or warm, pure or *salt*" (French—*sale*); p. 97, "they have taught them drunkenness, *when carrying them the water of life*" (French—en leur apportant de *l'eau de vie*); p. 160, "the modifications of extension, when not joined to number, *cannot* be distinguished by figure" (French—ne peuvent être distinguées *que* par la figure); p. 178, "a *cloudy* perception" (French—une perception *nue*); p. 181, "the soul . . . preserves its own perfections, and although dependent upon the body (in *seizing the good*) in the voluntary acts, it is independent . . . in others" (French—*à le bien prendre* = to state the case correctly; *voluntary* is also a mistake for *in*voluntary in this passage); p. 192, "it is just *what men have done*" (French—mais voilà comme les hommes *sont faits*). These are but a few examples, chosen at haphazard out of hundreds of others, but they are in themselves enough to convict Mr. Langley of utter incompetence for the position of translator of Leibnitz. No amount of zeal for an author is sufficient to atone for the linguistic ignorance which turns sentence after sentence of his chief work into mere nonsense, least of all in the case of a writer so full of pregnant and suggestive ideas as Leibnitz. And it is adding insult to injury when Mr. Langley, at p. xv. of his preface, lays the blame for the inelegance of his translation on the "abrupt and obscure and sometimes even ungrammatical" style of the author. No one, of course, would pretend that the *Nouveaux Essais* display the copious elegance which charms us in Malebranche's *Recherche*, but I venture to say that there is scarcely a sentence in the whole work which is obscure enough to cause serious difficulty to a tolerably good French scholar, and I doubt if there is even one—apart of course from textual corruptions—which is ungrammatical. The particular construction at which Mr. Langley boggles (see p. xv. and the absurd note on p. 768)—that of *la plupart* with a verb in the plural number—is, of course, as regular and familiar in French as the singular verb with neuter plural subject in Greek. Indeed, one hardly knows whether to be more amazed that so poor a French scholar as Mr. Langley should have had the courage to translate the *Nouveaux Essais*, or that none of the learned gentlemen who are mentioned in the preface as having encouraged him in the task should have had the candour to recommend some six months' assiduous study of the French tongue as a desirable preliminary to the work of translation.

It is a more pleasurable duty to speak of the quality of Mr. Langley's annotations to Leibnitz than to deal with his perversions of the text. A final judgment on the value of the great mass of historical notes could only be passed by one who had devoted the same time and pains to the interpretation of Leibnitz that Mr. Langley has done. I will only say here that as far as I have been able to test Mr. Langley, his antiquarian information seems sound as well as copious; and it is in the main in this work of explaining obscure allusions and references that he has deserved best of Leibnitz and of students of philosophy. Even with regard to the notes, however, I cannot omit to call attention to a few unfortunate misrepresentations. The *primum mobile* is *not* "in Aristotle's philosophy

τὸ πρῶτον κινοῦν, *i.e.*, God" (p. 156). The first note on p. 228, "*i.e.*, the soul, etc.," is quite erroneous. Leibnitz is simply arguing that if we had sense-organs variable at will, we should need some *corporeal* mechanism for their control. The reference, in the footnote to p. 248, to *Kant's Religion*, etc., is wrong, and should be omitted. Leibnitz's statement at p. 288 about the general character of the language of children is surely more true to the facts than Mr. Langley's confident assertion, "everything for them (*i.e.*, children) is individual, particular, separate, and by itself". The first note on p. 306, where Leibnitz is credited with the discovery of a "source of manifold far-reaching and influential errors, specially fatal in philosophy, *viz.*, the hypostatising of concepts," is really quite absurd. Leibnitz, in the passage thus commented on, is only saying that a given *word* may sometimes, *e.g.*, in a dictionary or grammar, be the subject or matter of discourse. At p. 348 Pierre Sylvain Régis, the opponent of Malebranche, is confused with H. Regius, a mistake all the more curious because at p. 633 Mr. Langley not only gives a correct account of Regius, but censures Dr. Martineau for having fallen into this very confusion. It is extremely incorrect to say (p. 362, note 1) of the "elements" of Empedocles, without a word of qualification, that they were "adopted by Plato and Aristotle, and called by the Peripatetics warmth, cold, dryness, and humidity". The diagram in Leibnitz's *De arte combinatoria* should at least have kept Mr. Langley from the mistake about the Peripatetics. These are, however, after all, mere minor blemishes, and I hasten to add that the general level of Mr. Langley's notes is far above that reached by his translation. The collation of Erdmann's and Gerhardt's texts is a useful feature of Mr. Langley's notes, but it may reasonably be complained that he has too often followed the latter in cases of obvious clerical or typographical errors. The type, paper, and general get-up of the translation are as excellent as Messrs. Macmillan's reputation would lead one to expect.

A. E. Taylor.

An Outline of Psychology. By Edward Bradford Titchener. New York: The Macmillan Company. London: Macmillan & Co., 1896. Pp. xiv., 352.

The distinctive merit of this little book is its adaptation to the needs of the beginner. Avoiding unnecessary subtleties, Prof. Titchener gives a clear and well-arranged sketch of the leading topics of Psychology. A feature of especial value is the description of simple experiments which can be readily performed by the reader for himself. Such experiments are easiest and most effective in the analysis of sensations, and this is undoubtedly the best part of the book. When Prof. Titchener passes to the discussion of more complicated and recondite processes, his treatment is often unsatisfactory. He is apt to lay down sweeping and dogmatic statements on points which are still extremely difficult and dubious. For instance, in chap. v. he affirms, apparently without any kind of misgiving, that "anabolic bodily processes correspond to the conscious quality of *pleasantness*, catabolic processes to that of *unpleasantness*" (p. 94). In the same chapter he also states, as if it were a well-assured acquisition of science, that the experiences of pleasantness and unpleasantness can only occur when a neural disturbance is "carried to the highest 'co-ordinating centre' of the brain—the cortex of the frontal lobes" (p. 100). All this is speculative physiology, not a sober statement of psychological observations. Prof. Titchener has, of course, a perfect right to maintain these views, which may or may not be

correct; but it is surely out of place to set them down in dogmatic form in a very elementary introduction to the subject. It is also very unfair to himself, as he has no opportunity for an adequate statement of the reasons which have led him to his theories. In chap. vi. there is an interesting discussion of Conation and Attention. Prof. Titchener maintains that there is nothing in these experiences, *quâ* experiences, which cannot be reduced to Sensation and Affection. The reason he assigns is simply that introspection cannot find anything else. It is needless to say that we think him wrong on this point. He has not, in our opinion, correctly stated the problem which is to be submitted to introspection. But, after all, this is by comparison a minor question. What is of primary psychological importance is the account given of the nature of Conation as a process rather than as an experience. On this side of the question Prof. Titchener is to our mind more satisfactory, though by no means completely so. He admits the existence of natural and of acquired tendencies. "The nervous system," he says, "has, in every individual case, certain definite leanings, a bias in certain definite directions" (p. 110). Again, "Mind is a stream of processes flowing between banks, through channels which are now deep-cut and now shallow, which lead now in this direction and now in that, which now incline easily downwards and now run in the same level" (p. 113). This is excellent as far as it goes. But Prof. Titchener has failed, in our opinion, to realise the paramount importance of these tendencies in the treatment of the whole range of psychological problems. For instance, he makes no reference to them in discussing the fundamental conditions of pleasantness and unpleasantness. Prof. Titchener also appears to us to be on a wrong track, inasmuch as he constantly blurs the distinction between Sensation, Perception and Idea. These are all, according to him, sensations, and "the sensations aroused centrally do not differ as psychological processes from those aroused peripherally" (p. 148). Whether or not the neural processes corresponding to Sensation and Idea occupy the same brain-tracts, it seems obviously and undeniably wrong to affirm that they are psychologically identical processes. At any rate, the statement is very apt to mislead the beginner.

In spite of such criticisms as these, we must assert with emphasis that Prof. Titchener has executed a very difficult task with much skill. It is a very difficult task to write a really elementary book on Psychology; a book which shall give really clear, definite and distinct teaching, and yet be fully intelligible to the beginner. In the main, Prof. Titchener has succeeded in doing this. In certain respects, as we have seen, there is room for material improvement: but as the work is already passing into a second edition, and is likely to pass into more, the author will have abundant opportunity to revise and improve it.

G. F. S.

The Works of Joseph Butler, D.C.L., sometime Lord Bishop of Durham. Edited by the Right Hon. W. E. GLADSTONE. Oxford, 1896.

Studies Subsidiary to the Works of Bishop Butler. By the Right Hon. W. E. GLADSTONE. Oxford, 1896.

All that magnificence of paper, type, and margin can do for these volumes has been done for them by the Clarendon Press. Mr. Gladstone's edition of Butler will long continue the Classical Edition of Butler—the edition which no gentleman's library or rather (since in these days 'gentlemen' do not collect Libraries) no Public Library should be without. Mr. Gladstone's Annotations containing *in extenso*

the passages of other authors referred to (usually anonymously) by Butler, or more or less evidently in the author's mind, will often be found really useful. The same may be said of the large amount of interesting matter relating to the history of Butler's writings, to what has been said and written about them and against them, collected in the volume of Subsidiary Studies. When Mr. Gladstone launches forth into more general topics of Theology and Philosophy (especially the latter) we have abundant cause to admire the multifarious knowledge which he has found time to acquire in the interval of laborious and splendid public work. That he exactly meets the difficulties which Butler presents to the professed student of modern Philosophy, it would be too much to say. Even in the midst of his most energetic protests against various phases of modern theological speculation, it is quite clear how much his mind has really been affected by the progress of biblical criticism and theological thought.

Still, it must be confessed, his way of looking at things often belongs to the past rather than to the present. There are two elements in Bishop Butler—an element that exhibits in a somewhat exaggerated form the limitations and the embarrassments of eighteenth century Theology, and an element that is of permanent and enduring value. Mr. Gladstone, it must be confessed, does not do very much towards helping us to disentangle the one from the other. Nevertheless in exhibiting the hold which Butler's thought has obtained on so powerful a mind, Mr. Gladstone has constructed a notable monument to his hero's memory. Mr. Gladstone would probably consider himself rewarded for this labour of love if it should incite and assist some younger student to make a more deliberate and systematic attempt than has yet been made to assign to Butler his true place in the history of Philosophy and of Theology.

Christianity and Idealism. The Christian Ideal of Life in its Relations to the Greek and Jewish Ideals and to Modern Philosophy. By JOHN WATSON, LL.D., Professor of Moral Philosophy in Queen's University, Kingston, Canada. Glasgow: James Maclehose & Sons. London: Macmillan & Co. New York: The Macmillan Company, 1897. Pp. 216.

This work has grown out of lectures recently delivered before the Philosophical Union of the University of California. Part i. is the expansion of a lecture on "The Greek and Christian Ideals of Life". Part ii. contains three lectures in defence of Idealism. The author seems anxious to prove throughout his dissertation that religion and morality have been always indissolubly connected. In order to show this he tells us that he selects for detailed examination "one or two instances where the connexion seems at first sight to be broken" (p. 6). Accordingly in chapters i. and ii. Professor Watson brings historical evidence indicating the relation of totemism and polytheism to the ideal of life and standard of conduct existing among those ancient nations who adopted them as their basis of religious belief. His conclusion seems to be that when the practice of a community becomes purer than its cult, the latter is replaced by a loftier object of faith and worship. Chapter iii. treats of Judaism, where all morality consists in a rigid adherence to the letter of the Law with its code of adscititious precepts, devised by the ingenuity of the Pharisees. With this entirely external system of morality Professor Watson contrasts the ideal of life exhibited in the Christian Beatitudes (p. 63). Christ traces back the real source of all moral ideas to the heart of man as a member of a social community.

To the sentiment of brotherly love he appeals without reference, and often in direct antagonism to authority and tradition.

Christ's teaching was the highest type of optimism: an "optimism," says Professor Watson, which "flows from absolute trust in the goodness of God, and in a recognition that man in his ideal nature is a 'son of God'" (p. 97). The rapid change of Christianity in Mediæval times Professor Watson ascribes to three influences: (1) the belief that the kingdom of heaven could not be realised in this life; (2) a belief in the absolute authority of the Church; (3) the opposition of faith and reason.

Chapter vi. in part ii. is devoted to a defence of "the general doctrine of Idealism, which affirms that the knowable world is identical with the world as it really is, and is a systematic or rational unity" (p. 153). Agnosticism confuses the unknown with the unknowable, against which error Professor Watson protests. All knowledge is a knowledge of realities so far as it goes, but we cannot set limits to its possible extension. Chapter viii., entitled "Idealism and Christianity," deals (1) with the conception of God as the absolute of all existence; (2) the relation of the world, and especially of man, to the absolute. From the consideration of these two points the author concludes "that Idealism is in essential harmony with the Christian ideal of life as held by the Founder of Christianity, however it may differ, at least in form, from popular Christian theology" (p. 193).

T. W. Levin.

Habit and Instinct. By C. Lloyd Morgan, F.G.S. London and New York: Edward Arnold, 1896. Pp. 351.

This is a highly interesting and important contribution to Comparative Psychology. Among other points, it brings out in a clear light the importance of inherited organisation in determining the course of psychical activity. The author holds that there is little evidence either in animals or in man "of the hereditary transmission of increments of faculty due to continued and persistent use" (p. 346). Fuller notice will follow. We here give the headings of the chapters: Chap. i.—"Preliminary Definitions and Illustrations"; chap. ii.—"Some Habits and Instincts of Young Birds"; chap. iii.—"Locomotion in Young Birds"; chap. iv.—"Further Observations on Young Birds"; chap. v.—"Observations on Young Mammals"; chap. vi.—"The Relation of Consciousness to Instinctive Behaviour"; chap. vii.—"Intelligence and the Acquisition of Habits"; chap. viii.—"Imitation"; chap. ix.—"The Emotions in their Relation to Instinct"; chap. x.—"Some Habits and Instincts of the Pairing Season"; chap. xi.—"Nest-building, Incubation and Migration"; chap. xii.—"The Relation of Organic to Mental Evolution"; chap. xiii.—"Are Acquired Habits Inherited?" chap. xiv.—"Modification and Variation"; chap. xv.—"Heredity in Man".

The Science of Education. By Johann Friedrich Herbart, Professor of Philosophy at the University of Göttingen. Translated from the German with a Biographical Introduction by Henry M. and Emmie Felkin, and a Preface by Oscar Browning, M.A., Fellow of King's College, Cambridge. Second edition. London: Swan Sonnenschein & Co., Lim., 1897. Pp. xx., 286.

It is gratifying to see a second edition of this translation, inasmuch as it points to a growing interest in educational theories. But it may be doubted whether it is worth while to trouble the hard-working teacher

of the present day with Herbart's writings in their original form. Undoubtedly the writer on education ought to study Herbart; but it seems more or less a waste of time for the practical teacher to do so. Herbart's work has been a most important and valuable factor in determining the course of modern psychology: but his psychological system, as such, founded as it is upon an untenable metaphysics, must be pronounced obsolete. Its utter failure to recognise the importance of inherited constitution is in itself enough to disqualify it from forming the basis of a text-book of Pædagogics adapted to modern needs. The translation appears accurate, but it is somewhat unreadable.

Notes on Children's Drawings. Edited by E. E. Brown. Berkeley, Cal.: published by the University, 1897. Pp. 75.

This number of the "University of California Studies" consists of notes, copiously illustrated, of the drawings of four young children. The reports were prepared from a *questionnaire* of eight questions, and are supplemented by the observations and recollections of the Editor and others. The investigation, independently undertaken, was not finished on the appearance of the works of Sully, Baldwin and Lukens: the Editor has noted the points of contact with and divergence from these authors. A useful Summary discusses the relation of childish to savage drawing, the psychogenesis of drawing as indicated by the four cases reported, etc. The *Notes* end with a two-page bibliography.

Psychology of the Moral Self. By B. Bosanquet. London: Macmillan & Co., 1897. Pp. viii., 132.

This little book contains a course of lectures given in connexion with the University Extension movement. The author believes "that they will give a useful clue to students who desire to approach moral philosophy with some genuine ideas on the nature and working of mind" (Preface). The work will no doubt fulfil this function: but in our opinion it is scarcely worthy of Mr. Bosanquet's reputation. It is somewhat perfunctory, and tends to lapse into a mere series of quotations.

Les Sciences sociales en Allemagne; les méthodes actuelles. Par C. Bouglé, Ancien Eléve de l'École normale supérieure, Agrégé de Philosophie. Paris: Félix Alcan, 1896. Pp. 189.

M. Bouglé is a Frenchman who has studied Social Science in Germany, and the present volume is in the nature of an exposition of the methods pursued by some of the leading German thinkers, who have devoted attention to social subjects. He has selected the works of four representative professors, and subjected their methods to an acute and comprehensive examination. Lazarus is selected as a representative of the psychology of peoples; Simmel, as a representative of Moral Science; Wagner, as a representative of Political Economy; and von Ihering, as a representative of the Philosophy of Law. These writers M. Bouglé considers as on the whole the most typical exponents of the newest tendencies in Germany. In Germany Social Science has been dealt with by various methods. In the heroic age of German philosophy, Social Science was treated from a speculative point of view. This was the method of Kant, Fichte, and Hegel. It was soon seen that purely speculative methods would not fit the facts of history, and a reaction arose against the speculative school. This reaction was led by men like Savigny and Niebuhr in the sphere of law, and in the sphere of

economics by Roscher and Knies. The speculative school despised facts, the historical school despised speculations. The historical school did good work in accumulating vast masses of facts, but it had no satisfactory key to the interpretation of these facts. The biological school represented by Lilienfeld and Schaeffle professed to find a key by borrowing the methods of the natural sciences. Society was assumed to be an organism, and its structure and functions in their origin and development were to be interpreted by methods similar to those employed in interpreting the facts of organic life. The biological school has obtained little hold in Germany. It is felt that biological laws will not explain social institutions. These institutions are determined as much, if not more, by psychology. In short, it is not by the methods of other sciences but by an independent method of its own that social science can discover the laws which govern social phenomena. In a concluding chapter M. Bouglé compares the sociological movement in Germany with the same movement in France. He has written a good and instructive book.

Essai sur le Génie dans l'Art. Par GABRIEL SÉAILLES, Directeur des conférences de philosophie à la Faculté des lettres de l'Université de Paris. 2me edition. Paris: Félix Alcan, 1897. Pp. viii., 313.

An inquiry, mainly psychological, into the nature of genius, the beautiful, the ideal, and the work of art as such. Starting with the assertion that genius connotes only a difference of degree in the spontaneity, facility and harmonious co-ordination in mental procedure characterising all intellectually constructive activity, whether perceptive, imaginative or conceptual, the author proceeds to analyse the mental image and its fundamental tendency to emerge in movement, deeming that here the germ of art is to be sought. *A des degrés divers tout homme est artiste.* The work of art begins with the relative freedom of the imagining, as compared with the perceptive mind. To imagine is to idealise; there are as many ideals as there are objects and minds to contemplate them. And the beautiful is not in any object, but is what my mind makes of it, what I see alone and endeavour to embody.

This essay, presented some time ago as thesis for a doctor's degree at the Sorbonne and now republished, though it is not wholly free from those defects of *la littérature phraséologique* which characterise so much that is written on æsthetic subjects, has more sound psychology than most, and is full of *verve*. Nor from its abundance of matter and wide range can justice be done to it in a brief note.

Le Déterminisme Biologique et la Personnalité Consciente. Par FÉLIX LE DANTEC. Paris: Félix Alcan, 1897. Pp. 156.

This is the sequel to the author's *Théorie de la Vie*, which dealt with 'biological determinism'. The present volume proceeds to the description of the 'psychical epiphenomena' which accompany, but do not influence, the 'physical phenomena'. The expression 'biological determinism' signifies that bodily processes are sufficient to themselves, and reject the interposition of 'will'. M. Le Dantec studies the consciousness of atoms; then the union of these psychical centres, in chemical combination, into the consciousness of the molecule; he proceeds to the consciousness of the cells of the body and studies the relations of these subordinate experiences to one another; the latter do not fuse or unite to form the mental life of the individual. The volume concludes with short considerations about reason, sleep, memory, and death. It

reminds one throughout of Hæckel's *Perigenesis of Plastidules*, and often of the Leibnitzian system. The book is slight and facile in manner; the author does not seem to be altogether aware of the present difficulties of his subject or of the past contributions to it.

Geschichte der Logosidee in der Griechischen Philosophie. Von Anathon Aall. Leipzig, 1896. London: Williams & Norgate. Pp. xix., 251.

This work traverses the same ground as Heinze's treatise on 'Die Lehre vom Logos,' published in 1872. It is an attempt to trace the rise and development of the doctrine of the Logos from Heraclitus to the Neo-Platonists. The author deserves the thanks of theological as well as philosophical students for so careful and elaborate a piece of work on a subject of so much interest and importance in the history of human thought.

We shall best obtain a clear idea of the development of the Logos-doctrine if we cite a sentence or two from the author's introduction. "Ihre eigenthümliche Gestalt gewinnt die Idee nur von dem Augenblick an, da sie sich jedenfalls von dem transcendenten Gottesbegriff emanzipiert. . . . Ihre Existenz verdankt die Idee vom Logos nicht dem Bedürfniss *Gott*, sondern dem Bedürfniss, die *Welt* zu erklären. . . . Thatsächlich ist durch sie das Göttliche, wie sonst nirgends, der Welt der Menschen und der Welt der Natur nahegebracht."[1] The gradual emancipation of the idea of Logos from the idea of the Supreme God, between whom and the world the Logos is a mediator, is the theme of the book.

In developing his plan, the author begins with a short account of the theological doctrine of Thales and the Eleatics. Although the substantive doctrine of the λόγος is foreign to their teaching, they nevertheless make room for Reason among the attributes of the First Cause. As a separate and distinct conception, however, it is to Heraclitus that the doctrine is due; and Aall accordingly devotes a considerable section of his book to an account of that philosopher. If we understand him rightly, Aall refuses to allow that Heraclitus' λόγος is organically connected with what (in common with many other writers) he regards as the fundamental tenet of his philosophical system—that the στοιχεῖον of all things is Fire. He complains—not, we think, without reason—of the tendency of critics to equate λόγος with πῦρ, ψυχή, and ἀναθυμίασις, and gives strong reasons for believing that the idea of ἀναθυμίασις in Heraclitus is a later accretion due to the Stoics. Aall himself explains Heraclitus' λόγος as follows: It is, on the one hand, Reason regarded as the universal παράδειγμα for the human spirit. Our duty is to follow its guidance; when we desert it, we do so in consequence of moral anarchy within us. The same reason manifests itself, on the other hand, in the external world, which is created in its image. It is therefore a universal cosmic principle: at once "die intellektuelle Basis der Welt wie der Wahrheit zuverlässigstes und klarstes Ideal".[2] Although we cannot assign to it personality, yet its affinities with the Christian doctrine are sufficiently close to have induced Justin Martyr to claim Heraclitus among the Christians before Christ.[3]

[1] P. xix. [2] P. 55.

[3] Aall cites in this connexion the following remarkable passage from Justin: καὶ οἱ μετὰ λόγου (should we not read λόγου?) βιώσαντες χριστιανοί εἰσι, κἂν ἄθεοι ἐνομίσθησαν, οἷον ἐν Ἕλλησι Σωκράτης καὶ Ἡράκλειτος καὶ οἱ ὅμοιοι αὐτοῖς. No doubt Heraclitus' doctrine of the λόγος had something to do with the estimate formed of him by early Christian authors.

The doctrine of the λόγος practically disappears from Greek philosophy between Heraclitus and the Stoics, or, if it survives at all, it wears a different dress. Aall finds traces of it in the νοῦς of Anaxagoras, whose great merit (according to the author) is that he invested the Heraclitean λόγος with teleological attributes; in the Ideas of Plato, which are a sort of *Mittelwesen* between the First Cause and the world of phenomena; and also in some of the features of Aristotle's qualified idealism. But he clearly shows that the *word* λόγος is not used by any of these thinkers in the sense which Aall himself assigns to it in Heraclitus.

The results of Aall's investigation of the Logos-doctrine in Stoicism may be briefly summarised in the following remarks. Its operation is universal, both without and within us, and its embodiment is fire. In ordering the world, it distributes itself in various proportions among organic and inorganic things; but, among the creations of Nature, its highest grade is reserved for Man. In him it is, in fact, identical with the ἡγεμονικόν which "dominates the whole of Stoic psychology". It is in virtue of the presence of this common element in a pre-eminent degree that God and Man are brought into union. Its relation to the Deity in the Stoic system is difficult to define; but there is, according to Aall, one obvious difference—the Deity is sometimes regarded as a personal Being, the Logos never. "Gott waltet als souveräne Persönlichkeit. Nehen ihm erhebt sich die kunstvolle Gestalt des Logos, durch welches neue Plasma Welt und Mensch ihre philosophische Erklärung finden sollten."

From the Stoics, after briefly treating of the dogma as it meets us in the Alexandrian philosophy, our author passes to Philo. He gives an interesting account of the religious sentiment which was gradually growing up around the dogma, and which is reflected in such epithets as πρωτόγονος, ἀρχάγγελος, ἀπεικόνισμα, and παράκλητος; but he makes it clear that Philo stopped short of actual personification.[1] It was not till Christianity that the Word became flesh. The work ends with an account of the Logos-doctrine in Neo-Platonism.

From what has been said a fair idea may be obtained of the conclusions at which Aall arrives. The arguments by which he reaches them may not be always sound, but they are generally worthy of consideration. Scholars will perhaps wish that more attention had been paid to recent works on ancient philosophy. The author complains of the difficulty in distinguishing between the contributions of successive heads of the Stoic school to the sum total of Stoic doctrine. Much has, however, been done in this direction by Hirzel, and after him by Pearson, in his *Fragments of Zeno and Cleanthes*, and Aall's work would certainly have gained in precision and firmness of grasp if he had paid some regard to their conclusions. Sometimes, too, it is impossible not to doubt whether the author's scholarship is sound enough to enable him to successfully carry an inquiry of this kind to its conclusion.[2] On the other hand, his criticism of the rival interpretations of the word λόγος in Heraclitus appears to me acute.[3] He does not, however, mention the view which regards Heraclitus' λόγος as the actual treatise which he was writing, or the arguments contained in it. Such a view seems practically to banish the doctrine of the Logos from Heraclitus altogether, and fathers it upon

[1] *De Prof.* i., 561 (cited by Aall): ὁ δὲ ὑπεράνω τούτων λόγος θεῖος εἰς ὁρατὴν οὐκ ἦλθεν ἰδέαν.

[2] Instances in point will be found on pp. 6 and 31. There is also an unnecessary number of misprints in quotations from the Greek.

[3] Pp. 29-34.

the Stoics.[1] Unhappily, the fragments of Heraclitus are so scanty and ill-preserved that scholars are never likely to agree in their interpretation of his λόγος. Professor Burnet denies that "λόγος meant Reason at all in early days".[2] Against this view some linguistic arguments of no little weight are adduced by Aall. On broader grounds, the theory which assigns the Logos-doctrine to Heraclitus seems to me reasonable. Many of his utterances read as if the speaker believed himself to be inspired; and such a belief is likely to have been fostered by a doctrine of this kind. The words which Heraclitus applies to the Sibyl might well be said of himself: *Σίβυλλα δὲ μαινομένῳ στόματι ἀγέλαστα καὶ ἀκαλλώπιστα καὶ ἀμύριστα φθεγγομένη χιλίων ἐτέων ἐξικνέεται τῇ φωνῇ διὰ τὸν θεόν.*

J. ADAM.

Die Lehre des Sokrates als Sociales Reformsystem. Von Prof. Dr. AUGUST DÖRING. London: Williams & Norgate, 1896. Pp. x., 614.

The object of this work is to determine the position of Socrates and his teaching in the history of philosophy. "Der Zustand," says Dr. Döring, "in dem sich das Problem der Sokratischen Lehre noch immer befindet, ist einigermassen beschämend für die Geschichte der Philosophie und die gesammte Geschichtswissenschaft überhaupt." The author claims to have pointed out the method by which we may hope to arrive at a final solution, and to have made some contribution towards it.

We may say at once that Dr. Döring's work is excellent in respect of plan and arrangement, and shows a profound acquaintance with the literature of the subject. It should prove an invaluable aid to any student of Socrates' life and teaching, and especially to any future editor of Xenophon's *Memorabilia*.

The book is divided into three leading sections, preceded by an Introduction.

In the Introduction it is maintained that Socrates was a systematic thinker, and that Xenophon's *Memorabilia* is our only trustworthy authority for the substance of his teaching. The first section (pp. 84-344) consists of a minute and laborious examination of the *Memorabilia*, the result of which is to show that Xenophon arranged his material according to a plan of his own, resting rather upon an apologetic basis than upon the actual philosophical sequence of the Socratic dogmas. Dr. Döring regards the *Memorabilia* as Xenophon's work throughout, although in its present form it is a second edition, revised and augmented by the addition of book i., chap. ii., 9-61, and book ii., chaps. ii.-x. These additions—so thinks Dr. Döring—were made in view of an attack upon Socrates' life and teaching by the Sophist Polycrates. It would require a long philological discussion to test this theory, and we must here content ourselves with saying that in our opinion the author has not succeeded in proving his point. But the hypothesis of a double recension of the *Memorabilia* is not essential to the main argument of the work before us. In part ii. we are presented with the substance of the *Memorabilia* recast in a scientific form, and logically subordinated under a single leading idea. The fundamental idea in Socrates' teaching, according to Dr. Döring, is "Sozialethik beruhend auf Sozialeudämonie". Socrates was primarily a political and social reformer; and all his teaching can be explained as the out-

[1] See Burnet's *Early Greek Philosophy* (where this opinion seems to be held), pp. 133-134. Burnet ousts the obnoxious λόγου from one of the most important fragments (92 in Bywater).

[2] *Loc. cit.*, p. 133.

come of his passion for reform. Like his follower Plato, he considered the reformation of Athens to be possible only by reforming the rulers; and hence his doctrine of Duty and Virtue "ist nicht eine solche für den Menschen überhaupt: sie ist unter dem Gesichtspunkte seiner Gesellschaftsreform entworfen und bezieht sich wesentlich auf den Stand der Leitenden". This proposition Dr. Döring seeks to establish by a detailed examination of the Socratic theory of the Virtues. The direction which in Socrates' opinion reform should take was towards aristocracy, in the etymological sense of the word. In this respect Socrates agreed with the tendency of all Greek political speculation, although he did not lose himself in mere Utopias like Plato. Finally, in part iii., it is shown that such a conception of Socrates' life and doctrine is strictly in harmony with the circumstances of his age, and supported to some slight extent by the testimony of the ancients themselves, as well as by the political speculations of his pupils, particularly of Plato in the older section of the Republic, and by Xenophon in his *Cyropædia*.

Such is the view of Socrates presented by Dr. Döring. As a protest against a certain school of critics, who are unwilling to allow that Socrates was anything but 'the father of philosophy,' the work is of the greatest value. It gives us a picture of Socrates which, so far as it goes, is true. But is it the whole truth? We doubt it. Let us grant that Socrates himself aimed at reforming his country, by the creation of a school of statesmen who should rule for their country's good; we have still to explain the impulse which he gave to philosophy in the person of Plato. The work before us gives an admirable account of the substance of Socrates' teaching; but touches only lightly on his *method*. It was his method, as Aristotle observed long ago, which gave birth to a new era in philosophy, and no picture of Socrates can be complete without the presence of this feature. Now it is just the method of Socrates, and all that it involved—imagination, enthusiasm, sympathy—which we should *a priori* expect to have eluded the matter-of-fact Xenophon. The *Cyropædia* is a melancholy proof that Xenophon was almost totally lacking in philosophical insight and imagination; and it is unreasonable to suppose that he could have sounded the depths of so marvellous a nature as Plato has described for us in the *Symposium*. To us it seems that intellectual stimulus and moral enthusiasm are singularly lacking even in the *Memorabilia;* and without these qualities no one could have influenced the soul of Plato as Socrates did. Schleiermacher's formula, that the historical Socrates was x + the Socrates of the *Memorabilia*, still holds the field; and the unknown quantity is still to be interpreted from the dialogues of Plato, especially, perhaps, from the *Symposium* and the *Phædo*. None the less should we be grateful to Dr. Döring for so scholarly and exhaustive an account of one of the two sides in the character of Socrates.

J. Adam.

Psychologie. Von Dr. Alois Höfler. Wiess und Prag: F. Tempsky. Pp. 604.

Dr. Höfler, whose *Logic* was published some years ago, and then attracted considerable attention, has now finished a text-book of psychology, which constitutes with the former a "Philosophische Propaedeutik," intended for the higher classes of Austrian middle schools. The greater part of books of this kind consist of little more than extracts from larger hand-books, imitating them in their divisions and proportions

with great accuracy, and forgetting that both quality and quantity of intellectual, as well as material, food should depend upon circumstances. Dr. Höfler, who is not only a schoolmaster but a distinguished philosopher as well, takes a line of his own.

An elementary text-book of any science may pursue two very different aims: either it is intended to be a real introduction, the perusal of which is to be followed by the study of larger hand-books and monographs, or it is meant to give such information as is valuable in itself as an essential element in the education of the higher mental faculties. In the first case, the author has to ask himself: What knowledge of notions, facts, and methods is generally presupposed in scientific literature? In the second case, he has to answer the much more subtle question: What can the study of this science contribute to the general culture of the mind? Dr. Höfler, writing for readers who, for the most part, do not intend to study psychology for its own sake, has deliberately chosen the second way. He has given us a book, which, neglecting a detailed exposition of the facts and methods of current psychology, is extremely well adapted to foster those habits of careful self-observation and self-analysis which even among our cultivated classes are still greatly neglected.

The main import of Dr. Höfler's psychology lies on the descriptive side. In treating of a class of mental phenomena, he generally begins by ascertaining the precise meaning of the terms used for them in current language, proceeding from extension to intension, and distinguishing carefully between terms denoting slightly different objects, or different meanings of one term. The phenomena themselves are then scrupulously analysed and classified, their hidden elements brought to light, and their inner relations expounded. In all these directions Dr. Höfler's work is simply excellent. The space to which I must confine myself forbids ample illustration: so I only refer to the analysis of our ideas of Space (284-304), Time (353-356), and the Ego (378-384); to the discussion of the question, whether a judgment factor be present in the processes of observation and recollection (211-214, 252-257); to the demonstration of "form-qualities" as essential elements of many ideas (152-154); and to such distinctions as that between feelings from ideas and feelings from judgments (390), or that between egoism in the sense of taking one's own future pleasure as an end, and egoism in the sense of being guided by one's own judgment of worth (483). By these, as well as by many similar investigations, Dr. Höfler shows himself a thinker of great acuteness, and opens interesting perspectives in what may be called the logic of psychology. In the exposition of psychical laws the author limits himself as nearly as possible to the data of scrupulous self-observation, quoting the results of laboratory researches only for the sake of giving greater clearness and precision. Though this method necessarily fails to give an adequate impression of the importance of quantitative work for the solution of psychological problems, it has the direct advantage, that the reality of the facts, upon which the argumentation rests, is always under the reader's control, and the indirect one, that the habit of looking at the data of common mental experience as materials for scientific interpretation is strongly cultivated. In regard to explanatory theories, Dr. Höfler observes the utmost caution; never asserting more than his probable readers are prepared to judge of, and often limiting himself to the bare statement of conflicting opinions. So far as I can see, this is the right way. A high degree of mental culture involves not only a certain amount of knowledge and intellectual training, but also a deep impression of the dignity of science, and a disposition to abstain from

judgment in the absence of sufficient reasons. For the development of these qualities it is as dangerous to leave those problems, which surpass the powers of the beginner, unmentioned, as it is to offer a solution in a more or less authoritative way. The student should recognise that the limits of science do not coincide with the limits of his text-book, or with those of his present faculties; but the independence of his judgment should, above all, be respected. It is a great merit of Dr. Höfler's *Psychology*, as well as of his *Logic*, to have kept both these principles constantly in view.

As for the general philosophical and psychological standing-point of the author, it is sufficient to remark that the names of Brentano, Meinong, and Ehrenfels are those he especially quotes.

G. HEYMANS.

Schopenhauer und die indische Philosophie. Von Dr. MAX F. HECKER. Köln: Hübscher & Teufel, 1897. Pp. 255.

That the author of this most interesting essay should also show himself ignorant of "Indological studies" at first hand, that is to say, with two out of the three systems of thought he sets himself to compare together, is much to be deprecated. Holding that Schopenhauer is practically Brahmanical in his metaphysic, and Buddhistic in his ethic—which is true only within certain limits—he draws in outline a systematic parallel between these three doctrines under the main heads of Mysticism, Ethic, and Metaphysic and Asceticism. The exposition is for the most part so lucid and simple that the work will probably be read beyond the circle of select readers. But the lucidity and simplicity are, it is to be feared, due in great measure to the over-restriction of the sources on which Dr. Hecker has drawn for his Oriental material. Prof. Deussen's *System des Vedânta* is, it is true, a host in itself, but our knowledge with regard to Buddhist philosophy is still too incomplete for any one to elicit a reliable account of it in all points by borrowing solely, or practically so, from one small work, good as that is, like Prof. Oldenberg's *Buddha*. To quote only two instances: we have reproduced, of course uncritically, the latter's theory of an element of consciousness (*viññāna*) surviving at death, which is based on one ambiguously recorded episode in the Canon, and is opposed by other explicit utterances of Gotama. Again, a wider acquaintance with the results of Buddhist scholarship might have led the author to dwell less on egoism as the basis and obtuseness as the ideal of Buddhist ethics, and more on its "enthusiasm of humanity" and its missionary ardour; while research into its original records might have suggested a possible coincidence with Schopenhauer's ethic of sympathy as based on his doctrine of identity.

C. A. F. RHYS DAVIDS.

Grundzüge der Psychologie. Von HERMANN EBBINGHAUS, Professor der Philosophie an der Universität zu Breslau. Erster Halbband. Mit zahlreichen Figuren im Text. Leipzig: Verlag von Veit & Comp., 1897. Pp. 320.

This book is meant as an introduction to psychology; but its aim is not to give a preliminary outline of the subject, but actually to introduce the reader into the serious and detailed study of psychological problems. Much stress is laid on experimental work, but the scope of the book is by no means limited to the results of experiment. It is to embrace the entire life of the individual mind from its lowest to its highest manifestations. The part of the work already published contains about one-

fourth of the whole. It treats (1) of general questions, such as the nature of the soul, its relation to the body, unconscious mental process and psychological method; (2) of the structure and functions of the nervous system; (3) of the simplest mental products. Under the last head the psychology of sensation is expounded. In the present instalment the author deals only with sight and hearing. At present only the first half of the first volume is before us. Full review must be postponed at least until the completion of this volume. But it is necessary to say that, as far as he has gone, Prof. Ebbinghaus has produced absolutely the best exposition of the psychology of sight and hearing anywhere to be found. His treatment of the nervous system is also admirable.

Uber physische und psychische Kausalität und das Prinzip des psychophysischen Parallelismus. Von MAX WENTSCHER. London: Williams & Norgate, 1896. Pp. x., 122.

The interaction of mind and body is maintained as against the fashionable hypothesis of mere parallelism. The author has of course no difficulty in pointing out the logical fallacies of the doctrine of parallelism as ordinarily expounded, and especially the inconsistencies into which its advocates are apt to fall. His own view is that logical, mathematical, ethical and æsthetic relations are by their nature essentially distinct from and independent of mechanical relations. On the other hand, they determine action, and so affect the course of physical events. Thus the psychical independently determines the physical, as in impressional experience the physical independently determines the psychical.

Lehrbuch der Psychologie. Von FRIEDRICH JODL, O.O., Professor der Philosophie an der Universität zu Wien. Stuttgart, 1896. London: Williams & Norgate. Pp. xxiv., 767.

This is essentially a text-book, and as such it possesses conspicuous merit. The arrangement is clear and systematic, the exposition lucid and definite, and the treatment throughout characterised by accuracy and soundness of judgment. Fuller notice will follow.

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T. Ribot, *L'évolution des idées générales*, Paris, Félix Alcan, 1897, pp. 260.

V. Basch, *Essai critique sur l'esthétique de Kant*, Paris, Félix Alcan, 1897, pp. xiv., 608.

C. Chabot, *Nature et moralité*, Paris, Félix Alcan, 1897, pp. 290.

L. Brunschvieg, *La modalité du Jugement*, Paris, Félix Alcan, 1897, pp. 244.

A. Comte, *La Sociologie*, résumé par E. Rigolage, Paris, Félix Alcan, 1897, pp. xv., 472.

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G. de Craene, *De la spiritualité de l'âme*, London, Williams & Norgate, 1897, pp. 354.

J. C. Kreibig, *Die Aufmerksamkeit als Willenserscheinung*, Wien, Alfred Hölder, 1897; London, Williams & Norgate, pp. vi., 93.

H. Ebbinghaus, *Über eine neue Methode zur Prüfung geistiger Fähigkeiten*, Hamburg und Leipzig, Verlag von Leopold Voss, 1897, pp. 61.

J. von Kries, *Abhandlungen zur Physiologie der Gesichtsempfindungen*, Hamburg und Leipzig, Verlag von Leopold Voss, 1897, Erstes Heft, pp. vi., 198.

W. Wundt, *System der Philosophie*, zweite umgearbeitete Auflage, Leipzig, Verlag von Wilhelm Engelmann, 1897; London, Williams & Norgate, pp. xviii., 689.

G. Dallari, *Dei Nuovi Fondamenti della Filosofia del Diritto*, Modena, 1896, pp. 139.

G. Negri, *Meditazioni Vagabonde*, Milano, Ulrico Hoepli; London, Williams & Norgate, 1897, pp. lxiv., 510.

G. Negri, *Segni dei Tempi*, Milano, Ulrico Hoepli; London, Williams & Norgate, 1897, pp. xxxii., 454.

A. Faggi, *Principj di Psicologia moderna*, II., Palermo, Alberto Reber, 1897; London, Williams & Norgate, pp. iv., 134.

P. Ceretti, *Saggio circa la ragione logica di tutte le cose*, Versione dal latino del C. Badini, e connote ed introduzione di P. D'Ercole, volume iv., sezione ii., Torino, 1897, pp. 525-1011.

VIII.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. v., No. 6. **A. C. Fraser.** 'Philosophical Faith.' [We have the philosophy of the unknowable, and that which makes infinite reality comprehensible by human thought. Both neglect the rationally authoritative *needs* of man. "'Faith,' 'trust,' 'authority,' are words not unfit to designate the final relation of the human spirit to the universe of reality." Examination of Locke and Hegel. "Philosophical faith is the truly rational trust that nothing can happen in the temporal evolution which can finally put to confusion the principles of moral reason that are latent in man."] **A. Seth.** 'The Term "Naturalism" in Recent Discussion.' [Defence of Balfour's usage.] **D. G. Ritchie.** 'The Relation of Logic to Psychology,' i. [Psychology deals with events, logic with validity. Confusion of the two in Mill: discussion of the law of contradiction. No scientific line can be drawn between logic and epistemology: Jevons. The ultimate test of truth in all departments of knowledge is coherence within a system, and this test is identical with the 'laws of thought' which underlie formal logic.] **J. A. Leighton.** 'Hegel's Conception of God.' [God is "the universal self-consciousness which comprehends within itself all concrete differences, men and things".] Discussions. **E. Ritchie.** 'Professor Pfleiderer on Morality and Religion.' [Against Pfleiderer's advocacy of the dependence of ethics on religious dogma.] **C. W. Hodge.** 'Windelband on the "Principle of Morality".' [Windelband's teleological method requires a metaphysical supplement to ethics.] Reviews of Books. Summaries of Articles. Notices of New Books. Notes.

Vol. vi., No. 1. **D. G. Ritchie.** 'The Relation of Logic to Psychology,' ii. [Judgment and concept; intension and extension; singular and universal propositions; the syllogism. Apology for Aristotelian and formal logic. General result: psychology ought to be kept out of logic, but cannot be kept out of the epistemology into which logic inevitably merges; logic ought not to be kept out of psychology. The seeming paradox is explained by the fact that psychology is both philosophy and science of mind.] **J. D. Logan.** 'The Aristotelian Concept of *φύσις*.' [Aristotle "transforms the early hylozoistic conception of *φύσις* as brute material will, determined in its 'appearances' solely by its own caprice, into a new hylozoism, according to which the unconscious will of the world, determined in its 'appearances' by and for immanent entelechies, is ultimately determined by and for a spiritual being, a transcendent absolute entelechy, or supreme good".] **J. Dewey.** 'The Psychology of Effort.' [There are three theories of effort: the spiritual, the sensational and the mixed. The difference is probably reducible to a confusion between effort as conscious fact and effort as logical category or moral value. In conscious effort certain sense qualities, usually fused, fall apart. The importance of effort is "due to the fact that it is the critical point of progress in action, arising whenever old habits are in process of reconstruction, or of adaptation to new conditions".] **W. J. Wright.** 'Lotze's Monism.' **F. C. S. Schiller.** 'Reply.' [Criticism of the

paper in vol. v., No. 3, and counter-criticism.] **N. Wilde.** 'Morality and Religion.' **E. Ritchie.** 'Reply.' Reviews of Books. Summaries of Articles. Notices of New Books. Notes.

PSYCHOLOGICAL REVIEW. Vol. iii., No. 6. **E. F. Buchner.** 'The Third International Congress of Psychology.' **J. Kodis.** 'Richard Avenarius.' [Bibliography and general appreciation.] **G. M. Stratton.** 'Some Preliminary Experiments on Vision without Inversion of the Retinal Image.' [A reinverting apparatus was worn over one eye for parts of three days, the eyes being blindfolded in the intervals. The field of touch was not excluded. Experience gradually righted itself. So far as the 'projection' and 'eye-movement' theories of vision depend on inversion, they are thought by the author to be thereby refuted.] **J. McK. Cattell** and **L. Farrand.** 'Physical and Mental Measurements of the Students of Columbia University.' [Suggestion of methods. Illustration from results of 100 cases. Desiderata: (1) study of the interrelation of the traits defined and measured; (2) determination of the relative weight of heredity and environment in the development of the individual and the race.] Discussion and Reports. **W. James.** 'Psychical Research.' [Defence against Cattell's criticism. Results of American hallucination census.] **G. H. Howison.** 'Psychology and Logic: Further Views.' [Reply to Stratton.] **C. L. Herrick.** 'The Psychosensory Climacteric.' [Importance of change of memory-type, from objective reproduction to abstract (*e.g.*, verbal) surrogates.] Psychological Literature. New Books. Notes.

Vol. iv., No. 1. **G. S. Fullerton.** 'The Knower in Psychology.' [Difference between self as knower and self as known. History of the former in the history of ancient and modern philosophy. Modern opinions: the fallacies of Green and Ladd. The knowing self not a psychological problem: its origin in the 'objectivity' of the child and the animism of the savage consciousness.] **W. L. Bryan** and **N. Harter.** 'Studies in the Physiology and Psychology of the Telegraphic Language.' [Individual differences in telegraphic writing. Curves of improvement in receiving and sending. Contains valuable detailed results as regards the individual psychology of voluntary movement and practice.] **A. Binet** and **N. Vaschide.** 'The Influence of Intellectual Work on the Blood-pressure in Man.' [Preliminary report. Criticism of Kiesow. The most favourable counter-pressure. Amplitude of pulse increases with intellectual work.] Discussion and Reports. **H. M. Stanley.** 'Language and Image.' [Practical value of words for the manipulation of image masses with the minimum of imaging reference. Explanation by law of habit.] **J. H. Hyslop.** 'Upright Vision.' [Stratton's investigation was really one of tactual and motor adjustments.] Psychological Literature. New Books. Notes.

AMERICAN JOURNAL OF PSYCHOLOGY. Vol. viii., No. 2. **G. S. Hall.** 'A Study of Fears.' [Questionnaire returns and theory. Some twenty cases of typical fear are distinguished: fear of falling, of closeness, of thunder, of eyes, of solitude, etc.; dream and school fears receive special treatment; and a section is devoted to the repression of fears. The explanation is genetic: there may be vestigial traces, atavistic reversions in mind, as well as in body. Thus falling fears are a survival from the primeval sea, "antedating perhaps limbs, and possibly even the visual factors of space perception".] **C. S. Parrish.** 'Localisation of Cutaneous Impressions by Arm Movement, without Pressure upon the

Skin.' [Limen of localisation much greater than with the ordinary method; movements in flexion are overestimated, and in extension underestimated; visualisation decreases the limen; relative excursions of right and left hands, for movements judged to be equal.] **E. D. Starbuck.** 'A Study of Conversion.' [Questionnaire returns. Circumstances of conversion; puberty and conversion; analysis of the process, antecedents and central features; cognate experiences. Summary: conversion regarded sociologically and biologically, physiologically, psychologically, pedagogically. Contains a store of crude facts, which, however, need more thorough working over before they can be turned to scientific account.] Psychological Literature. Notes and News.

REVUE PHILOSOPHIQUE. Vingt-deuxième Année, No. 1. Janvier, 1897. **G. Tarde.** 'L'Idée d'opposition.' [Investigates the nature of our conception of opposition, its origin, and different manifestations in experience. Two terms are opposed, when we can go by a series of gradations from the one to the other, passing through an 'indifference' point. The notion of a series is essential to the idea.] **A. Naville.** 'Économique et morale.' [Maintains the positive character of political economy as a science dealing with the actual and not the ideal.] **B. Bourdon.** 'Expériences sur la perception visuelle de la profondeur.' [Monocular vision does not give us the perception of depth. For this there is required the convergence of two eyes.] Analyses et comptes rendus, etc.

No. 2. Février, 1897. **Pierre Janet.** 'L'Influence somnambulique et le besoin de direction.' [Discusses the characteristics of the hypnotic state and the precise nature of the influence that is exercised by the hypnotiser over his subject. The writer gives some interesting facts, and asserts that hypnotic suggestion is a valuable therapeutic agent.] **Parodi.** 'L'Idéalisme scientifique.' [Gives an account of the scientific and philosophic writings of M. Durand de Gros. The article deals chiefly with his physiology. De Gros held that mind and body interacted upon one another.] **G. Tarde.** 'L'Idée d'opposition.' [A continuation of the essay begun in the January number. It classifies the different kinds of opposition.] **L. Dauriac.** 'Idéalisme et positivisme d'après M. Fouillée.' [A critical review of Alfred Fouillée's two books: *Le mouvement idéaliste et la réaction contre la science*, and *Le mouvement positiviste et la conception sociologique du monde.*] Analyses et comptes rendus, etc.

No. 3. Mars, 1897. **F. Pillon.** 'La philosophie de Secrétan.—I. Métaphysique et théodicée.' [Secrétan based his philosophy on the moral consciousness. With him speculation led to the same conclusions as religious faith. Freedom, human and divine, was his catchword.] **L. Weber.** 'Le principe de non-contradiction comme principe dialectique.' [Deals with the nature of identity in connexion with a dialectic of thought. M. Weber criticises Hegel's Logic. The principle of non-contradiction must be accepted as an ultimate axiom. It is the regulative principle of dialectic, which consists in removing contradictions. An interesting and able article.] **Parodi.** 'L'Idéalisme scientifique.' [A second article on the works of M. Durand de Gros. Describes his theory of reality. M. Durand held a Spinozistic position. Everything is regarded as the manifestation of One Reality.] Revue critique, etc.

REVUE DE MÉTAPHYSIQUE ET DE MORALE. 5e Année, No. 1. Janvier, 1897. **J.-J. Gourd.** 'Les trois dialectiques.' [Science, Morality, and Religion, *i.e.*, theoretic, practical, and religious 'Dialectic,'—each of these is a work of skill or craft rather than of power. Their effect

depends on the plausibility of the *form* or *order* in which they present their data. The first is treated under the headings Empiricism and Rationalism, in an interesting paper, continued in the March number.] **B. Brunhes.** 'L'Évolutionisme et le principe de Carnot.' [How is the principle of the conservation of energy to be reconciled with evolutionism—with the principle of Carnot, *i.e.*, "The principle of the degradation of energy"?] **A. Spir.** 'Nouvelles Esquisses de philosophie critique (sixième article, *suite*): Essai sur les fondements de la religion et de la morale.' [Religion is the love of God; to love God is to love the good and true, etc., etc. Spinoza's *amor intellectualis dei* occurs to a reader of this article.] Discussions, etc.

5e Année, No. 2. Mars, 1897. **J.-J. Gourd.** 'Les trois dialectiques—(II.) *La dialectique pratique.*' [Treated under heads of: (*a*) *La morale du bonheur.* (*b*) *La morale du bien.* (*c*) *La morale de l'obligation.* (*a*) The very nature of pleasure creates a fatal obstacle in the way of eudæmonistic morality. (*b*) This, too, is shown to be unsatisfactory. (*c*) The nature of obligation is discussed. A final section states the relation between moral and theoretical dialectic.] **G. Séailles.** 'Les philosophies de la liberté.' [Commences with an historical survey, from Aristotle onwards, of the relation of the problem of Free Will to philosophy in general: evidencing a full acquaintance on the writer's part with the ancient Greek and Latin philosophers.] **Criton.** 'Cinquième dialogue philosophique entre Eudoxe et Ariste.' [The dialogue starts with the consideration of Reason itself, apart from its application to things.] Études critiques, etc.

Revue Néo-Scolastique. No. 13. **M. La Jour** ('L'Admiration') maintains that admiration is a state of consciousness awakened by an exhibition of will power, or of the control exercised over matter by a power of organisation or direction. He endeavours to make good this definition by an analysis of the various objects of admiration, physical force, agility, beauty, grace, address, etc. **M. Hallez** ('La vue et les couleurs') commences a series of articles on eight colours. In the present article, after discoursing on uniform, varied, simple and composite colours, and the principles which regulate the formation of composite colours, he institutes a quantitative analysis of composite colours, discusses the geometrical synthesis of colours, and sets forth the ancient theories on colour. S. Thomas, following Aristotle, had defined *time* as 'numerus motus secundum prius et posterius'. **M. Nys** ('La notion de temps d'après saint Thomas d'Aquin') asserts that this definition, properly understood, presents the true notion of time, and maintains that time consists of two elements, of which numerus is the formal and motus is the material element. Since, however, movement becomes formally and actually number only by means of an intellectual act which divides the continuous, M. Nys is of opinion that time and movement are *ontologically* identical, and that the distinction between them is purely logical. **M. de Baets** ('Une question touchant le droit de punir') endeavours to show that society, in punishing crime, ought to have in view the restoration of the moral order which has been disturbed by crime, not, indeed, the restoration of the moral order considered absolutely, for moral fault as such, or considered precisely as a violation of duty, does not fall within the competence of society, but the restoration of the social moral order. **M. Mercier** ('Discussion de la théorie des trois vérités primitives') undertakes to prove that this theory is of little value as against modern scepticism. M. Mercier even questions its value as against the old-fashioned forms of scepticism, and

points out that use was never made of it by Aristotle or by the better known scholastics.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE. Bd. xii., Heft 2. **J. von Kries.** 'Ueber die Wirkung kurzdauernder Lichtreize auf das Sehorgan.' [New experiments on recurrent vision. Failure of the phenomenon at the fixation point: its dependence upon adaptation. Comparison with the 'flickering heart' (Szili, etc.). Tentative explanation, in terms of the author's theory of vision.] **R. Simon.** 'Zur Lehre von der Entstehung der koordinierten Augenbewegungen.' [Empirism and nativism: Helmholtz *v.* Hering. Donders' proposal of crucial experiments on animals has never been taken up. Better are human cases of connate muscular anomaly, where binocular vision persists: *e.g.*, paralysis of the abducens or insufficiency of the superior and inferior recti and obliqui. Both tell for Helmholtz.] **E. Roemer.** 'Zur Frage der psychischen Zeitmessungen bei Geisteskranken.' [For Kraepelin, against Ziehen.] Litteraturbericht.

Bd. xii., Heft 3 und 4. **E. Koettgen** und **G. Abelsdorff.** 'Absorption und Zersetzung des Sehpurpurs bei den Wirbeltieren.' [The maximum of absorption for mammals (including man), birds and amphibia lies at about the wave-length 500, for fish at about 540$\mu\mu$. No evidence of visual yellow in animals.] **S. Witasek.** 'Ueber willkuerliche Vorstellungsverbindung.' [The two kinds of centrally aroused ideas: reproductive ("anschaulich") and surrogate ("unanschaulich"). Passage from latter to former is either direct, by way of consolidated contents, or indirect, part after part of the reproduction coming up. It involves an idea of relation. It depends on two factors: the proportion of directly to indirectly ideated attributes in the surrogate idea, the "Leistungsfaehigkeit" of that idea; and the disposition to the formation of the reproduction, the degree of practice. The two factors form inversely related continua. Characteristic of these connexions in general is a volition, whose object, an idea, is thought by the aid of a relation and another idea, which constitutes one term of this relation; the second idea must be different in contents from the idea willed, but have the same object; this condition affords a general determination of the relation. The four possible cases: reproduction to reproduction, reproduction to surrogate, etc. Relation to current views: Wundt, the associationists. (The article follows from Meinong's work on imagination, and uses Meinong's terminology.)] **J. Merkel.** 'Die Abhaengigkeit zwischen Reiz und Empfindung.' [Defence of the author's position against Meinong's attack.] **Guillery.** 'Vergleichende Untersuchungen ueber Raum-, Licht-, und Farbensinn in Centrum und Peripherie der Netzhaut.' [The magnitude of the physiological point (black on white), the magnitude of the surface necessary for the perception of a determinate brightness-difference, and the magnitude of that required for a determinate colour perception are ascertained at centre and periphery (four chief meridians) of the retina. The results, all reduced to terms of the physiological point, give an idea of the distribution of the various sensitive elements concerned over the retinal area.] **T. Lipps.** 'Berichtigung.' [To the author's paper on geometrical optical illusions.] Litteraturbericht. [Ziehen on Wundt's *Grundriss.*]

Bd. xii., Heft 5 und 6. **S. Exner.** 'Ueber autokinetische Empfindungen.' [If a point of light is fixated in an otherwise dark room, it appears to move. Our judgment of the direction of our line of vision is in any case very uncertain. The retinal local sign helps us, if several points are in the field at the same time. But the single point has a

'circle of action' on the retina, at any spot within which it may appear; and as we are trying to fixate, we think that its appearance at different spots means movement.] **W. A. Nagel.** 'Ueber kompensatorische Raddrehungen der Augen.' [Literature. Measurement methods: regular corneal astigmatism, after-images, blind spot. Experiments by last method; proof of torsion. Preliminary report of work on animals, and comparison of certain animals with men.] **E. Burmester.** 'Beitrag zur experimentellen Bestimmung geometrisch-optischer Taeuschungen.' [If two vertical parallels are cut obliquely by a transversal, itself not continued between the parallels, the two parts of the transversal appear not to belong together (Poggendorff's figure). The rule of the illusion is found to be as follows: The parallel displacement of the parts of the transversal is proportional to the distance separating the vertical parallels and the cotangent of the angle of inclination of the transversal; the vertical displacement is proportional to the same distance and the cosine of the angle of inclination; the angle of overestimation is dependent upon the angle of inclination and conditioned by the personal constant, but independent of the distance separating the vertical parallels. A similar rule holds for the figure obtained by reversing the direction of one of the parts of the transversal.] **E. B. Titchener.** 'Entgegnung.' [Reply to criticism of Heymans.] Litteraturbericht. Bibliographie der psycho-physiologischen Litteratur des Jahres 1895. [1588 titles.]

PHILOSOPHISCHE STUDIEN. Bd. xiii., Heft 1. **W. Wundt.** 'Ueber naiven und kritischen Realismus,' ii. [This second paper is devoted to the empirio-criticism of Avenarius and his school, which professes to make experience the basis of all criticism of concepts, whether philosophical, scientific or prescientific. The writer gives an exposition (1) of the general theory of the school, translating its terminology into ordinary language; (2) of the applications of the theory; and (3) of the special hypothesis of introjection. He then passes to a critical discussion of the presuppositions of the system. It conflicts with positive natural science in its assumption that thought of the object always carries with it thought of the ideating subject. Its 'System C' is really a metaphysical substance. Its reduction of quality to quantity is unjustified. Its 'objective' consideration confuses the two meanings of 'objective,' impartial and abstracting-from-subject. Its actual methods are not those officially recognised: they are the methods of psychophysical analogies (principle of practice) and of a peculiar dialectic. Its professed methods, on the other hand, are not strictly followed: they are the methods of economy of thought and of pure description. The system confuses didactic, methodologic and metaphysical economy of thought, inclining however to the last. And its description involves explanation. A third paper will discuss the historical relations of empirio-criticism, and its attitude to natural science and psychology.] **K. Marbe.** 'Neue Versuche ueber intermittirende Gesichtsreize.' [As the difference between two stimuli increases, the duration of the critical period decreases, at first quickly, then more slowly. This holds whether the mean intensity increases or diminishes with increase of the stimulus-difference. It holds also for subjective differences, and without regard to the mean stimulus-intensities corresponding to them. The duration of the critical period is determined by the objective stimulus-differences: approximately equal periods correspond to equal objective differences.] **M. Arrer.** 'Ueber die Bedeutung der Convergenz und Accommodations-bewegungen fuer

die Tiefenwahrnehmung,' i. [Repetition, with bettered apparatus, of Wundt's experiments. Literature. Experiments, monocular and binocular, with successive comparison.—The whole paper will be summarised later.] **J. M. Baldwin.** 'Bemerkung zu "Mental Development".'

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE. Jahrg. xxi., Heft 2. **R. v. Schubert-Soldern.** 'Über die analytische Methode und die Selbständigkeit der Philosophie.' [The function of Philosophy is to analyse concrete reality into its elementary conceptual components, and to determine what combinations of these are possible, and what impossible.] **W. Jerusalem.** 'Über psychologische und logische Urteilstheorieen.' [Restates author's classification of the forms of Judgment, and briefly vindicates his theory of the anthropomorphic nature and origin of the subject-predicate relation.] **O. Krebs.** 'Der Wissenschaftsbegriff bei H. Lotze' (Zweiter Artikel). [Lotze's concept of sense-experience; the material of knowledge; was Lotze a transcendental or subjective idealist? The significance of things for cognitive activity; how can the subjective spirit be acted on by objects? what is the relation of psychological process to logical thinking, and of metaphysical categories to logical forms? The unity of consciousness, thought and language, and intellectual intuition, in Lotze's philosophy. The sense in which Lotze regarded "things" as instrumental in the development of knowledge, and his view of cognition as dependent on the moral nature and destiny of man.] **R. Willy.** 'Die Krisis in der Psychologie' (Zweiter Artikel). Besprechung, etc.

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE. Band iii., Heft 2. **M. J. Monrad.** 'Das Ding an sich als Noumenon.' [The Noumenon is that which ultimately satisfies the demands of thought. This can only be the absolute reason which manifests itself in all appearance. A plea for the idealism with which we are familiar in England under the name 'Hegelianism'.] **Benno Erdmann.** 'Die psychologischen Grundlagen der Beziehungen zwischen Sprechen und Denken' (Fortsetzung). [Deals with optical recognition of letters and words in reading. A very interesting account is given of the verbal imagery of a visualiser.] **A. Marty.** 'Grammatisches, logisches und psychologisches Subject.' [A clear statement of Brentano's theory of Judgment, and a criticism of H. Paul. The writer denies that questions, commands, and the like, are, properly speaking, judgments at all.] *Jahresbericht* über die Erscheinungen auf dem Gebiete der systematischen Philosophie: I. **Paul Natorp.** 'Bericht über deutsche Schriften zur Erkenntnistheorie aus den Jahren 1894 und 1895.' II. **E. G. Husserl.** 'Bericht über deutsche Schriften zur Logik aus dem Jahre 1894.' III. **Josiah Royce.** 'Systematic Philosophy in America in the years 1893, 1894, and 1895.' Zeitschriften, etc.

PHILOSOPHISCHES JAHRBUCH. Band x., Heft 1. **Dr. E. Rolfes.** 'Die Controverse über die Möglichkeit einer anfanglosen Schöpfung.' [Is the creation of the world in time an article of faith? The writer takes up Aquinas' refutations of the proofs to the contrary, and finds them insufficient. He prefers to say that eternal movement is impossible, but the bare idea of creation does not imply time.] **Professor Dr. J. Straub.** 'Gewissheit und Evidenz der Gottesbeweise.' [In this, the first of two papers on the subject, the writer sums up the Scholastic doctrine of the different kinds of evidence; he then sets forth the proof of God's existence as First Motor, and the corollaries—the aseity and

infinite perfection of God. The proof from the ideal world, or world of possibles, follows.] **Dr. Jos. Geyser.** 'Der Begriff der Körpermasse.' [This article, the first of a series, is chiefly devoted to the question of the infinite divisibility of matter. Though quantity is mathematically divisible *ad infinitum*, bodies are not so. We must admit the existence of individual atoms, having three dimensions in space, and containing no other smaller atoms.] **Mathias Kohlhofer.** 'Zur Controverse über bewusste und unbewusste psychische Acte' (Schluss). [Consciousness (Bewusstsein) is neither the same as perception (Erkennen), nor as self-perception (Selbsterkennen); both of these last, whether sensitive or intellectual, may take place in the absence of consciousness. But conscious states are so completely contrary to those unconscious that they cannot be thought to consist of the latter. Consciousness essentially implies the idea of the *I*; which animals cannot possess.]

PFLUEGER'S ARCHIV F. D. GESAMMTE PHYSIOLOGIE. Bd. lxi., Heft 7 und 8. **A. Kreidl.** 'Ueber die Schallperception der Fische.' Heft 9 und 10. **K. L. Schaefer.** 'Beweise gegen Wundt's Theorie von der Interferenz akustischer Erregungen in Centralorgan.'

Bd. lxiii., Heft 5 und 6. **M. Saenger.** 'Ueber die acustische Wirkung der Nasenhoehlen.' Heft 11 und 12. **J. R. Ewald** und **H. Willgerodt.** 'Zur Physiologie des Labyrinths, V. Die Beziehungen des Tonuslabyrinths zur Todtenstarre und ueber die Nysten'sche Reihe.' **A. Kreidl.** 'Ein weiterer Versuch ueber das angebliche Hoeren eines Glockenzeichens durch die Fische.'

Bd. lxiv., Heft 3 und 4. **F. Schenck.** 'Ueber intermittirende Netzhautreizung, I.' **With H. Schmidt.** 'Ueber den Einfluss von Augenbewegungen auf die Beobachtung rotirender Scheiben zur intermittirenden Netzhautreizung.' **P. Jensen.** 'Ueber den galvanischen Schwindel.' Heft 5 und 6. **A. Kuttner.** 'Die Hoerfaehigkeit labyrinthloser Tauben.' Heft 7, 8 und 9. **A. Fick.** 'Zur Theorie der Farbenblindheit.' Heft 10, 11 und 12. **A. Denker.** 'Ein Beitrag zur Lehre von der Funktion des Schalleitungsapparates des Saeugethierohres.' **F. Schenck.** 'Ueber intermittirende Netzhautreizung, II. Ueber die Bestimmung der Helligkeit grauer und farbiger Pigmentpapiere mittels intermittirender Netzhautreizung.'

Bd. lxv., Heft 11 und 12. **L. Hermann.** 'Kleine physiologische Bemerkungen und Anregungen.'

KANTSTUDIEN. Band i., Heft 2. **E. Adickes.** 'Die bewegenden Krafte in Kants philosophischer Entwicklung und die beiden Pole seines Systems, II.' **K. Vörlander.** 'Eine Socialphilosophie auf Kantischer Grundlage.' **W. Lutoslawski.** 'Kant in Spanien.' **E. Adickes.** 'Lose Blätter aus Kants Nachlass.' Recensionen, etc.

RIVISTA ITALIANA DI FILOSOFIA. November-December. **G. Villa.** 'La Psicologia dei Sentimenti.' [A Criticism of recent contributions to Psychology, with special reference to Ribot's *La Psychologie des Sentiments*. Against Ribot's theory, that pleasure and pain are indices (marques) of states of the organism, it is urged that Psychology would become a branch of Physiology, whereas the methods and objects of the two sciences are fundamentally different. On the question of moral pain Ribot is charged with laying too much stress upon the external manifestations; and hence includes it, as a species, in the genus physical pain. Similar objections are made to Ribot's analysis of the emotions, in which the organic state is alleged to be the most important

element. The discussion concludes with an investigation of the "intellectual feelings".] **A. Velardita.** 'Herbert Spencer e l'Evoluzionismo.' [Evolution, it must be remembered, is only a hypothesis containing two parts, gradation and transformation; and it is contended that the latter is inadmissible. Extracts quoted from the works of Spencer, Haeckel and Professor Gasca show that they differ in important details, and further, it is added that Virchow does not admit Evolutionary transformation in Spencer's sense, while geological experts (Agassiz, Bianconi) do not admit his deductions in this field; and, lastly, short passages are ingeniously quoted to show that, not only is Spencer refuted by other evolutionists and experts, but that he refutes himself. The argument follows the same method in a second part devoted to Social Evolution, in the course of which the "struggle for life" is characterised as introducing economic conditions which foster a *vae miseris* as barbarous as the *vae victis* of the ancients. The argument throughout is an acute iconoclastic attack upon the "Colossus of modern sociology".] **F. Ferri.** 'Del Bello nella Natura e nell' Arte.' [Continuation of an article already noticed. The writer discusses Good Taste, the Criterion of Beauty and of High Art, the Content of Art and the Division of Schools.] **E. Morselli.** 'Del Metodo nella Dottrina Morale.' [The method of Ethics should avoid the empiricism of the Evolutionists and the "formalism" of Kant. It should be neither spiritualistic nor materialistic, but, to be truly scientific, it should seek only to reconstruct objective facts with a due regard to contemporary science, and especially to economic laws.] Bibliografia, etc.

Vaprosi Philosophii i Psychologii. September, 1896. **N. A. Ivantsoff.** 'The Aims of Art.' [A paper on the aims of painting and sculpture. Beauty depends on the realisation of the artist's thought; but in the present democratic state of society, both painting and sculpture have given place to the novel and the drama.] **N. Umoff.** 'Descartes' Place in the History of Physical Science.' [Descartes' system, excluding unknown and final causes, attempts to explain all phenomena in terms of space and time; it goes much further than the system of Newton, with which it came into conflict.] **L. E. Obolenski.** 'Class-consciousness as a Factor in Social Progress.' [Class-consciousness is a feeling, by each of the members of a class, of what favours the interests of that class; the evolution of that feeling accompanies the evolution of the class itself.] **S. N. Trubetski.** 'The Principles of Idealism.' [Mystic idealism, especially as set forth in Hindu philosophy, has led only to negative results.] **Vladimir Solovieff.** 'The Moral Organisation of Mankind.' [There are two types of moral organisation: the family and the nation.] **L. Lopatin.** 'Descartes, as the Creator of a new Philosophical and Scientific View of the World.' [The writer criticises Descartes' method of setting aside all truths of which we can doubt, and notes his influence on later philosophers.] **W. Goltsen.** 'A Discussion with Obolenski on Class-consciousness.' **S. A. Suhanoff.** '"Neurons" in relation to certain Psychical Phenomena.' [Having stated what a "neuron" is in itself and in its morphological and biological relations, the writer points out the part which "neurons" play together, especially in relation to psycho-pathology.] **A. Divvelegoff.** 'Vico and his Philosophy of History.' [Vico has great merits, and though his chief idea—the repetition of certain typical forms in history—is not verified by facts, he has made many discoveries wrongly ascribed to other writers.]

IX.—NOTES AND NEWS.

ON THE TEMPERATURE-SENSES.

I.

Experimental Contributions towards our Knowledge of the Cold- and Warm-spots of the Skin.

The following is a *résumé* of the contents of an article which is being printed *in extenso* in *Upsala Läkareförenings Förhandlingar* 1897, and in *Scandinavisches Archiv für Physiologie* 1897. In the following *résumé* I have as shortly and concisely as possible brought forward the work already done by others, also reducing the critical remarks I might like to make on their work to a minimum. As to these remarks, and as to other sides of my work, I beg to refer the reader to the above-mentioned annuals. The observations were made at the Physiological Laboratory of this town and began in April, 1896.

INTRODUCTORY.

As is well known, *Magnus Blix* [1] has shown that the different kinds of sensations which are to be had from the skin can be attained only from certain distinctly localised spots, which we might call sense-spots. Thus he demonstrated that for instance sensations of warmth can be got only from certain warm-spots and sensations of cold only from certain cold-spots and that the skin between these spots is insensitive to cold and warmth. *Blix* stimulated the skin with pointed objects, employing electrical stimulation (induction-currents) as well as thermal (warm and cold metal-points).

These observations have been confirmed by *Donaldson*,[2] *Goldscheider*,[3] *Eulenburg* [4] and others. On the other hand they have been of late severely criticised and even more or less denied by *Dessoir* [5] and *Kiesow*.[6] *Dessoir* considers that the temperature-spots have been obtained by artificial means: they are the result of suggestion, of unequal pressure of the skin by the cold and warm points, etc. *Kiesow* denies the truth of *Blix*' discovery in so far only as he gives out that he has hardly ever found a cold-spot which cannot be made to give a sensation of warmth from a certain temperature upwards (+ 47 - 50° C.). These two last assertions seem to justify the holding forth of certain measures as necessary when investigating these matters. These are (as already given out by *Blix*): 1, the stimulus must not be too strong, else the adjoining parts of the skin will also be affected; 2, the stimulus must be punctiform enough—else the metal-point may cover a cold- and a warm-spot at the same time.

ADEQUATE THERMAL STIMULATION.

Working in this way, and using thermal stimulation, I have been able to once more corroborate *Blix*' observations. *Dessoir* and *Kiesow* seem to have neglected the rules laid down above, simple and indispensable as they may appear. Hence their assertions.

I may perhaps also mention the following facts. A hundred and twenty-six medical students have, during the last ten years at the Physiological Laboratory here, mapped out their temperature-spots on different parts of their skin. When tested (eyes shut) they have hardly ever been found to make a mistake. The fact that surfaces of up to one square centimetre and more can be found, from which no thermal sensations at all can be got, is perhaps the best proof that the whole of the skin is not sensitive to warmth and cold.

The temperature-spots differ from each other as to their sensibility, so that some spots need a stronger stimulus to bring forth a just perceptible sensation (minimum perceptibile) than others, but also so that some spots give a remarkably stronger sensation than others when stimulated by metal-points of the same temperature. These two factors seem to run parallel.

MECHANICAL STIMULATION.

Goldscheider was the first to observe that the temperature-spots can be excited by mechanical means—for instance by a sharp-pointed bit of wood. *Donaldson* and *Kiesow* have found this true. In fact, some of my cold-spots seem so sensitive to this kind of stimulus that the lightest touch brings forth a sensation of cold. By mapping out on the skin with cold and warm points all temperature-spots within a certain space, and then, eyes shut, letting another person excite them by pressure, an *objective* proof can be obtained of the efficiency of mechanical stimulation —just in the same way as of thermal, as shown above.

ELECTRICAL STIMULATION.

(1) *Induced Current.* Special care must be taken so as to avoid thermal and mechanical stimulation when wishing to get temperature-sensations *only* from the excitation to be had with an induction-current.[1] Great stress must also be laid on the necessity of having the current of proper strength —it is best to begin with hardly perceptible currents. The curious pricking sensation which this sort of stimulation generally excites in the skin will be found, if the current is not too strong, to give place to a *pure* sensation of warmth or cold on the temperature-spots. On certain other spots (" pressure-spots ") it will give place to a peculiar hammering sensation—a series of light knocks (" Hämmern " according to *v. Frey*), whilst on still other spots (probably the most sensitive " pain-spots ") a smarting feeling will predominate. The cold-spots seem to answer to weaker currents and also more rapidly than the warm-spots do.

(2) *Constant Current.* The temperature-spots cannot, as far as I can find, be stimulated by the constant current as such, even if the stimulation be made as punctiform as possible. No sensations, in fact, are obtained until the current is made so strong that evident electrolytic processes appear in the skin. But then they do result, almost always accompanied by pain so sharp that their existence becomes sometimes

[1] Platina wire of about 0·17 millimetre diameter and of ordinary temperature (+ 18° C.) seems to meet the demand on the sort of electrode required.

rather difficult to recognise. From the cold-spots I have been able to get sensations of cold not only during the current but also when making or breaking it. From the warm-spots only during it, and even then with difficulty. The skin gets brown, a thick yellow fluid coming forth. The spots cannot react afterwards, at least for some time, as they are destroyed; whether they can be regenerated, I am not at present prepared to say.

INADEQUATE THERMAL STIMULATION.

(1) *v. Frey* [7] describes a phenomenon which he has called "*paradox sensation of cold*," and which consists in the fact that cold-spots (some of them) can be made to give sensations of cold when stimulated with warm metal-points of 45° C. and upwards. When trying to test this observation, I thought first that the sensations were due merely to mechanical stimulation. I soon found, however, that this could not be the case, for when I increased the temperature of the points more and more (at last up to + 100° C.), the sensations of cold were also found to become stronger and stronger. The crucial test I made by using a small convex lens, through which sunrays were allowed to pass and which I held at such a distance from the skin that the focus fell on a cold-spot. By screwing the lens in a certain manner (so as to get just the proper amount of warmth on the cold-spot) I could distinctly observe sensations of cold, when the spots were excited in this way. By mapping out cold-spots with cold points and afterwards letting another person stimulate my skin with hot points (+ 75 – 100° C.), while I kept my eyes shut, I obtained also in this case an *objective* proof of the truth of *v. Frey's* discovery—the possible workings of my imagination being thus eliminated. This observation is, according to my opinion, of the greatest importance for the understanding of the sensation of "heat". I hope to be allowed to treat of this in a following paper.

(2) Naturally I have tried to find out if "*paradox sensations of warmth*" also exist. But the stimulation of warm-spots with metal-points of all degrees of cold (down to about – 70° C.) did not bring forth any sensations of warmth.

CHEMICAL STIMULATION.

As chemical substances are known to stimulate the skin, I wanted to try their effect when strongly localised to sense-spots. By applying small drops of different substances in liquid form (nitric and sulphuric acid (conc.) and alkali), the cold-spots were found to give sensations of cold, the warm-spots of warmth. No sensations of warmth or cold could be had from other spots of the skin.

SENSATIONS OF PRESSURE.

As far as I have been able to observe, the temperature-spots are not in the same degree capable of sensations of pressure (tactile-sensations) as the so-called "pressure-spots" (*Blix, Goldscheider, v. Frey*); *i.e.*, the former need—just as the skin in general—stronger pressure than the latter before sensation ensues.

SENSATIONS OF PAIN.

When wishing to ascertain if the temperature-spots are sensible to pain, care must be taken to get a sensation of cold (warmth) from the spot marked as a cold- (warm) spot, because without such a sensation there is no surety that the spot itself has been attained by the stimulus applied; exciting then the spots with various kinds of stimulus capable

of bringing out pain on other parts or spots of the skin, such as running needle-points into them, exciting them with hot and cold metal-points, induced currents, etc. I found the spots *in most cases* insensible to pain. This seems enough to prove their analgesia—it cannot be necessary to demand analgesia for *every* spot when consideration is taken of the facility with which pain can be had from such large parts of the skin, or speaking with *v. Frey*, in view of how close to each other the so-called "pain-spots" lie. It would in fact be curious if, for instance, the same needle-point did not now and then bring forth sensations of cold (warmth) *and* of pain simultaneously.

CONCLUSION.

These investigations seem to show, amongst other things, that the cold-spots are not capable of giving any other sensations than cold, and the warm-spots no other than warmth, whatever known stimulus may be used. The results can therefore in every respect be said to corroborate "the law of the specific energies of the nerves".

Terms.—Donaldson was the first to use the terms "cold-" and "hot-spots," which have ever since been employed. It seems, however, advisable to use the term "warm-spots" instead of "hot-spots". The reason for this I will give in a following paper.

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[3] A. Goldscheider, "Neue Thatsachen über die Hautsinnesnerven," Du B. Reyms., *Arch. f. Phys.*, 1885, supplem.

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[5] M. Dessoir, "Über den Hautsinn," Du B. Reyms., *Arch. f. Phys.*, 1892.

[6] Fr. Kiesow, "Untersuchungen über Temp. empfindungen," *Philosoph. Studien*, 1895.

[7] M. v. Frey, "Beiträge z. Sinnesphysiol. d. Haut," *Berichte d. mat. phys. Classe d. K. Sächs. Ges. d. Wissensch. zu Leipzig*, iii. *Mittheil*, p. 172.

SYDNEY ALRUTZ.

PSYCHOLOGICAL LABORATORY AT UNIVERSITY COLLEGE, LONDON.

A Laboratory for Experimental Psychology will be opened in University College, London, in October next. The Committee have secured a considerable part of the apparatus collected by Prof. Hugo Münsterberg of Freiburg, who is about to migrate permanently to Harvard College. Among those who have contributed to the movement are Mr. F. Galton, Prof. Hy. Sidgwick, Mr. A. J. Balfour, Mr. R. B. Haldane, Sir John Lubbock, Mr. Shadworth H. Hodgson, and Dr. Savage. It is hoped that the name of George Croom Robertson may in some way be connected with the laboratory. It is further hoped that Dr. W. H. R. Rivers, whose work as a teacher in Cambridge and elsewhere is well known, will be able to start the work of the laboratory and superintend it during the October term.